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AND

GASTON'S

DIAMOND ATLAS

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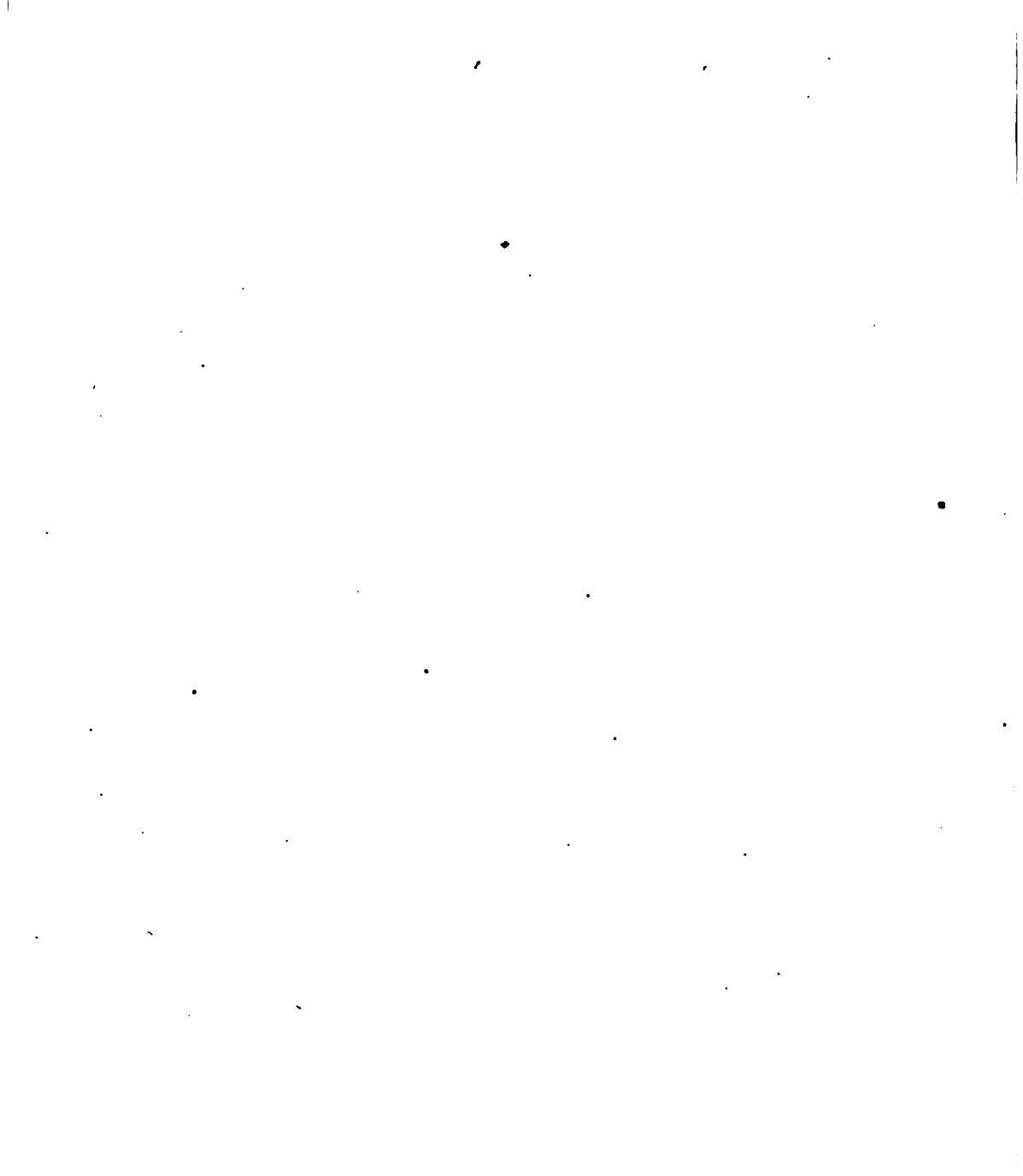
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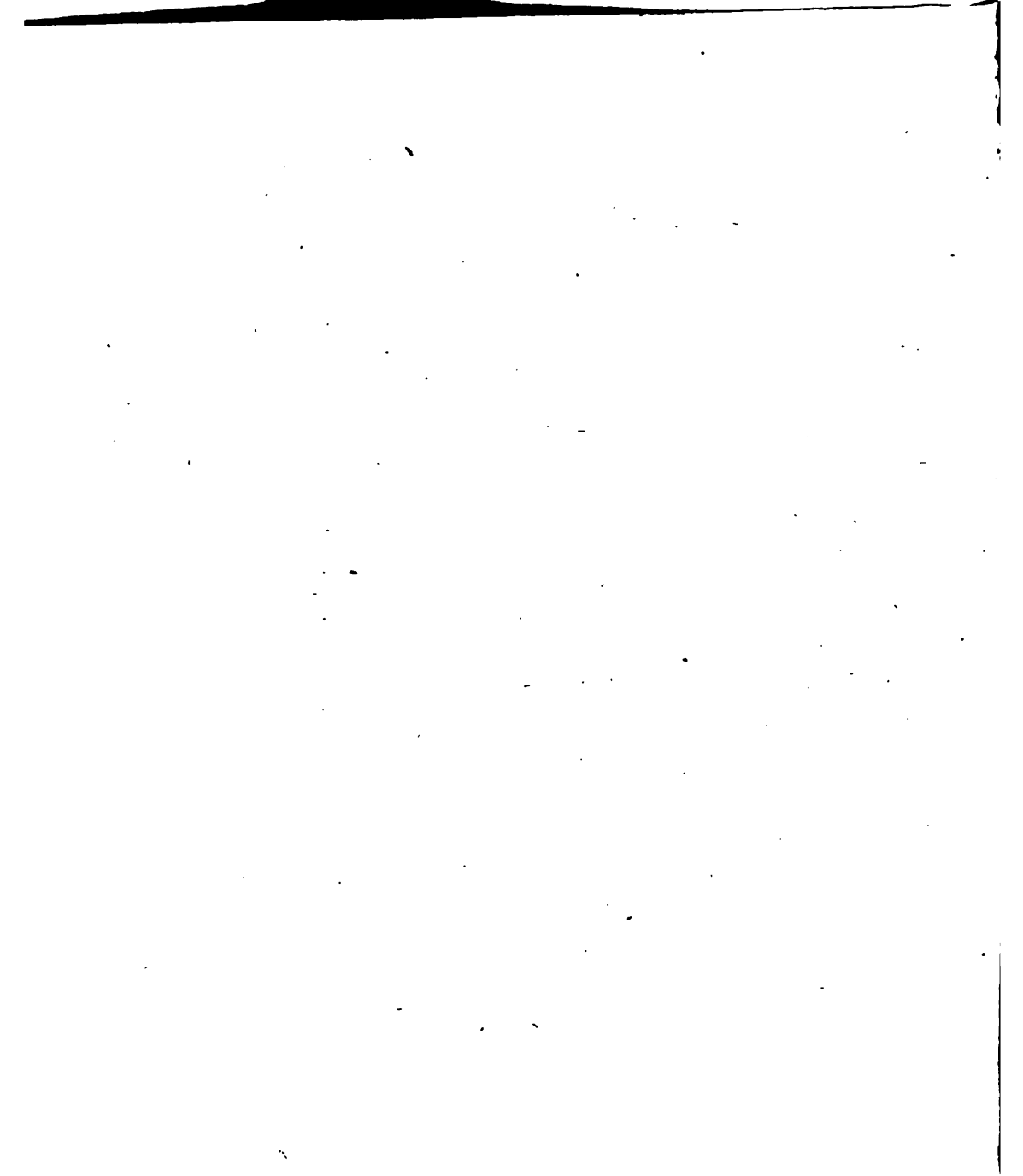


MORSE
AND
GASTON'S



DIAMOND
ATLAS

ORIENTAL



THE

DIAMOND ATLAS.

WITH

DESCRIPTIONS OF ALL COUNTRIES:

EXHIBITING

THEIR ACTUAL AND COMPARATIVE EXTENT,

AND

THEIR PRESENT POLITICAL DIVISIONS,

FOUNDED ON THE MOST RECENT DISCOVERIES AND RECTIFICATIONS.

BY

CHARLES W. MORSE, A. B.

EDITOR OF "MORSE'S GENERAL ATLAS OF THE WORLD."

THE EASTERN HEMISPHERE.

NEW YORK:

SAMUEL N. GASTON,

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TYPOGRAPHY OF
JAMES P. NESMITH.

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PUBLISHER'S PREFACE.

It has been remarked by some writer, "that whatever may have been the errors of Strabo, and Pliny, there were few, if any of their cotemporaries, who were capable of refuting them." The Geographer of the nineteenth Century, stands in no such position ; his readers are all critics, to a greater or less extent, and each in his sphere, is rigid in his demand for recency of information, and accuracy of detail. With a clear appreciation of the extent and severity of this scrutiny, the present volumes have been prepared. That they will supersede all others is not anticipated, but that they will supply a want long felt by thousands, in all the departments of busy life, is fully believed. That they possess material advantages over any similar publication, is too obvious to any one who will carefully examine their contents, to demand the slightest argument. They form a compendium of Geographical Knowledge, Ancient and Modern, Physical, Political, and Natural, that cannot be obtained elsewhere in the same compass, or at five times the cost ; and yet, it was feared, when the first part of the present work was issued, that its small size, compared with the ponderous works that have heretofore been deemed necessary, for a detailed treatise upon this science, might induce a hasty judgment against it.—But the exhausting of the first edition, of 3,000, in less than two months, has proved our fears to be groundless, and increased our zeal to make the present volume equally worthy of a generous patronage. A liberal space has been allotted to the treatise upon Ancient Geography, and a host of interesting facts, more strange than fiction, are here for the first time grouped together. The Maps illustrating this subject, contain in themselves alone, an epitome of the History of Human Progress. They show how age by age, the domain of Civilization has been enlarged, like the widening ripples on a placid sea. How gradually the "Mare Tenebrosum" (Dark Sea), and the "Terra

Incognita" (unknown land), have been driven back ; whether by the knightly Crusader, the daring avarice of the lawless Freebooter, or the more lofty promptings of a laudable ambition, until they only hover over a narrow circumference, around the inhospitable poles, where Science alone can hope to reap a harvest, and even there, she is pointing her adventurous prow, with a determination that seems likely to wrest from them their last secret ; and complete the sum of Geographical knowledge. It is by comparing the Maps of Ptolemy, and Eratosthenes, or even those of 1492 and 1520, with the modern ones, that illustrate the present work, that something like a definite idea can be formed, of the achievements of Geographical knowledge, in the last few Centuries. There, a little section of the sphere is vaguely shown, its islands, shores, and rivers, remarkable only for their incorrectness ;—and yet, when their date is considered, meritorious for their truthful approximations. Here, vast Continents are brought to light, their shores carefully triangulated, and their rivers tracked to " their almost springs." There, a few frail, and cumbersome barks groped their way along *uncharted* shores. Here, the " Rivers of the Seas" are marked out, and the paths of the winds determined ; and the stately steamship of to-day pursues its course over the trackless bosom of every ocean, with no less certainty, as to its position, and course, than the steamboat on our rivers. Not content with a superficial investigation, Geology has mined into the bowels of the Earth, and read from the stony pages of its history, the records of its past duration. By the aid of comparative Anatomy, the monsters of the Primitive World are clothed again with flesh, and the massive bone that defied the destructiveness of ages, is made to tell the History and character of its race. (See vol. 1, p. 12.)

It is a most interesting thought, says Dr. Hitchcock, that while millions of men, who have striven hard to transmit some trace of their existence to future generations, have sunk into utter oblivion, the simple footsteps of animals, that existed thousands, nay, tens of thousands of years ago, should remain as fresh and distinct as if yesterday impressed ; even though nearly every other vestige of their existence has vanished : Nay, still more strange, is it, that even the pattering of a shower of rain, at that distant period, should have left marks equally distinct and registered with infallible certainty, the direction of the wind !

It will be observed that the History of the various countries has been dwelt upon at considerable length. Geography is the handmaid of History ; and no treatise upon the one, can be complete, that discards the other. We read to remember.—We remember by association, and a thrilling Historical incident by its local connexions, may do more to fix Geographical facts in the mind, than whole libraries of dry abstractions. The Maps of this volume will be found sufficiently detailed for all the practical purposes of every department of life ; and executed with a degree of neatness, and accuracy, that cannot be surpassed. In their preparation the very latest authorities have in every instance been consulted, and several of the ancient Maps, very valuable and rare, have

been obtained from Europe, and translated into English, expressly for this work. Among the most striking novelties, we would call particular attention to the great Uniamesi Sea in Central Africa, first discovered in modern times, 1849†; and also to the Maps of South Africa, based upon the recent discoveries of Dr. Livingston in that region. The Map of Japan contains much that is new, and valuable relating to those islands, Maps of West, and North Africa, were originally contemplated; but it was found that everything of interest could be embodied in the general Map of that division.

† By turning to the ancient Map opposite page 45 the reader will observe a large sea represented in nearly the same locality as this, arguing that this mysterious region was not unknown to the ancients, though its poisonous climate, has until recently, presented an insurmountable barrier to Caucasian intrepidity and enterprise.

From Lieut. M. F. MAURY, U. S. N.

NATIONAL OBSERVATORY,
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Dear Sir:

THE DIAMOND ATLAS came safely to hand some months ago. I use it much; it's a jewel of a book, and we, who so often have occasion to refer to such works, are much indebted to you for presenting us with such a complete, excellent, and convenient Atlas as this is. Pray accept my thanks for it, and believe me

Yours truly,

M. F. MAURY.

CHARLES W. MORSE, Esq., New York.



THE DIAMOND ATLAS.

Outlines of Ancient Geography.

PHILOSOPHICAL THEORIES OF ANTIQUITY.

At the time of Homer (probably about 950 B. C.) the world was considered as an immense circular plain, surrounded by a sea of darkness, inhabited on its east, west, and northern borders by the Hyperborei or Cimmerii, a people who never saw the light of the sun (possibly an exaggeration of the long nights of the polar regions); and the burning deserts of the south, unfit for the habitation of men, were yet peopled by Pigmies, the Cyclops, and other imaginary beings—the vault of heaven resting on stupendous mountains, which encircled the world, and to the inner surface of which the stars were attached. This theory, while it is evidence that some imperfect ideas of the distant parts of the world were formed, also enables us to perceive how far the wildest imagery was intermixed with partial intelligence. Homer himself indulged the fancy that a range of columns, guarded by Atlas, were placed under the earth for its support, which idea was somewhat amplified by the Scandinavians, who believed that it rested upon nine pillars, while the worshippers of Brahmah imagined it to be sustained by four elephants.

It is strange that those who adopted these absurd theories, never thought of inquiring upon what their columns, pillars, or elephants rested! for this simple inquiry would have at once exploded their baseless fictions.

Not long after the Homeric epoch, Thales (born at Miletus 640, and died 545 B. C.) chief of “the seven sages of Greece,” who founded the Ionic sect of philosophers, taught that the world was a globular body, placed in the centre of the universe, and neither a circular plain nor a cylinder, as some of his cotemporaries still maintained. Like the rest of the ancients, he traveled in quest of knowledge, and for some time resided in Crete, Phœnicia, and Egypt. Under the priests of Memphis he was taught geometry, astronomy, and philosophy, and enabled to measure with exactness the vast height and extent of a pyramid merely by its shadow. His astronomical labors were important and ingenious. Besides being the first who calculated with accuracy a solar eclipse, he discovered the solstices and equinoxes, divided the heavens into five zones, and recommended the division of

the year into 365 days, which was universally adopted by the Egyptian philosophy. With Homer, he considered water as the principle of every thing.

Anaximander, another Miletian philosopher, the companion and disciple of Thales, was the first who constructed spheres, geographical maps, and sun-dials. He asserted that the earth was of a cylindrical form, and thought that men were born of earth and water mixed together, and heated by the beams of the sun; that the earth moved, and that the moon received light from the sun, which he regarded as a circle of fire, like a wheel, differing mainly from the earth by being twenty-eight times greater in dimension.

Anaximenes, the pupil and successor of Anaximander, taught that the earth was a plain, and the heavens a solid concave figure, on which the stars were fixed like nails—an opinion which prevailed for some time, and from which originated the proverb "If the heavens should fall," etc., to which Horace has alluded, 3 *Od.* iii. v. 7. He averred that the air was the cause of every created being, and a self-existent divinity, and that the sun, the moon, and the stars had been made from the earth. He died about 504 years B. C., and his theory did not long survive him.

Pythagoras, one of the most accomplished philosophers of antiquity, who was born at Samos about 530 B. C., early received such an education as was calculated to enlighten his mind and invigorate his body. After winning the admiration of Greece at the Olympic games, and of his own countrymen by "the dignity of his person and the brilliancy of his understanding," he visited Egypt and Chaldea, where he gained the confidence of the priests, and learned from them the artful policy and the symbolic writings by which they governed

the princes as well as the people. He subsequently spent many years in gathering all the information which could be collected from antique traditions concerning the nature of the gods and the immortality of the soul, and then returned to his native island; but soon becoming disgusted with the tyranny of Polycrates, although one of his favorites, he retired to Greece, where, in the public assembly, he was saluted by the title of *Sophist*, or "wise man." He refused the appellation, however, being satisfied with that of *Philosopher*, or "the friend of wisdom," and thus explained himself on that occasion: "At the Olympic games," said he, "some are attracted with the desire of obtaining crowns and honors, others come to expose their different commodities to sale, while curiosity draws a third class, and the desire of contemplating whatever deserves notice in that celebrated assembly; thus, on the more extensive theatre of the world, while many struggle for the glory of a name, and many pant for the advantages of fortune, a few, and indeed but a few, who are neither desirous of money, nor ambitious of fame, are sufficiently gratified to be spectators of the wonder, the hurry, and the magnificence of the scene." From Olympia, the philosopher visited the republics of Elis and Sparta, and retired to Magna Græcia, where he fixed his habitation in the town of Crotona, about the 40th year of his age. Here he founded a sect which has received the name of *the Italian*; and he was soon surrounded by a great number of pupils, which the recommendation of his mental, as well as his personal accomplishments, had procured. When they were capable of receiving the secret instructions of the philosopher, they were taught the use of cyphers and hieroglyphic writings; and Pythagoras might boast that his pupils could correspond

together, though in the most distant regions, in unknown characters; and by the signs and words which they had received, they could discover, though strangers and barbarians, those that had been educated in the Pythagorean school. So great was his authority among his pupils, that to dispute his word was deemed a crime, and the most stubborn were drawn to coincide with the opinions of their opponents, when they helped their arguments by the words of "*the master said so*," an expression which became proverbial in "*jurare in verba magistri*." The great influence which the philosopher possessed in his school was transferred to the world: the pupils divided the applause and the approbation of the people with their venerated master, and in a short time the rulers and the legislators of all the principal towns of Greece, Sicily, and Italy, boasted in being the disciples of Pythagoras. The Samian philosopher was the first who supported the doctrine of *metempsychosis*, or transmigration of the soul into different bodies; and these notions he seemed to have imbibed among the priests of Egypt, or in the solitary retreats of the Brahmins. More strenuously to support his chimerical system, he declared he recollected the different bodies his soul had animated: he remembered to have been Æthalides, the son of Mercury; to have assisted the Greeks during the Trojan war, in the character of Euphorbus; to have been Hermotimus; afterwards a fisherman; and last of all, Pythagoras. He forbade his disciples to eat flesh, as also beans, because he supposed them to have been produced from the same putrefied matter from which, at the creation of the world, man was formed. In his theological system, Pythagoras supported that the universe was created from a shapeless heap of passive matter, by the hands of a powerful be-

ing, who himself was the mover and soul of the world, and of whose substance the souls of mankind were a portion. He considered numbers as the principles of every thing, and perceived in the universe, regularity, correspondence, beauty, proportion, and harmony, as intentionally produced by the Creator. His discoveries in geometry, astronomy, and mathematics were alone sufficient to immortalize his name; and it is to him that the world is indebted for the demonstrations of the 47th proposition of the first book of Euclid's Elements, about the square of the hypotenuse. His system of the universe, in which he placed the sun in the centre, and all the planets moving in elliptical orbits round it, was deemed chimerical and improbable, till the deep inquiries and the philosophy of the sixteenth century proved it, by the most accurate calculations, to be true and incontestible. It found, however, an able advocate in Philolaüs of Crotona, a philosopher who "made the heavens his principal object of contemplation," and who is generally supposed to have been the author of the system so successfully revived by Copernicus. The authors that lived in, and after the age of Alexander, have rather tarnished than brightened the glory of the founder of the Pythagorean school, and they have obscured his fame by attributing to him actions which were dissonant with his character as a man and a moralist. To give more weight to his exhortations, as some writers mention, Pythagoras retired into a subterraneous cave, where his mother sent him intelligence of every thing which happened during his absence. After a certain number of months he again reappeared on the earth, with a grim and ghastly countenance, and declared, in the assembly of the people, that he was returned from hell. From similar exaggerations it has been asserted that he appeared

at the Olympic games with a golden thigh, and that he could write in letters of blood whatever he pleased on a looking-glass, and that by setting it opposite to the moon, when full, all the characters which were on the glass became legible on the moon's disc. They also support, that, by some magical words, he tamed a bear, stopped the flight of an eagle, and appeared on the same day and at the same instant in the cities of Crotona and Metapontum, etc.—The time and the place of the death of this great philosopher are unknown; yet many suppose that he died at Metapontum, about 497 B. C.: and so great was the veneration of the people of Magna Græcia for him, that he received the same honors as were paid to the immortal gods, and his house became a sacred temple. Succeeding ages likewise acknowledged his merits; and when the Romans, A. U. C. 411, were commanded by the oracle of Delphi to erect a statue to the bravest and wisest of the Greeks, the distinguished honor was conferred on Alcibiades and Pythagoras.

Plato, whose writings are still held in high estimation, was a descendant of Codrus,* the last king of Athens; and, as the offspring of an illustrious and opulent family, received an education well calculated to enlighten his mind and invigorate his body, and from which he derived that acuteness of judgment and warmth of imagination

* When the Heraclidæ made war against Athens, the oracle declared that the victory would be granted to that nation whose king was killed in battle. The Heraclidæ upon this gave strict orders to spare the life of Codrus, but the patriotic king disguised himself, and attacked one of the enemy, by whom he was killed. The Athenians obtained the victory, and Codrus was deservedly called the father of his country. He reigned 22 years, and was killed 1070 years before the Christian era. To pay greater honor to his memory, the Athenians made a resolution that no man after Codrus should reign in Athens under the name of king, and therefore the government was put into the hands of perpetual archons.

which have stamped his character as the most subtle and flowery writer of antiquity. At the age of twenty, he was introduced to Socrates, whose pupil he continued for eight years; and after that great philosopher was unjustly condemned to death, Plato retired from Athens, and traveled over a large portion of Greece, visiting Magara, Thebes, and Elis, where he met with the kindest reception. Attracted by the fame of the Pythagorean philosophy, he afterwards visited Magna Græcia, and thence passed into Sicily to examine the eruptions and fires of the volcano of that island. He next went to Egypt, where the accomplished mathematician Theodorus then flourished, and where he knew that the Pythagorean and metempsychosian tenets had been widely cherished. After finishing his travels, he settled in the groves of Academus, near Athens, where his lectures were soon attended by crowds of learned and noble pupils. With the exception of a brief absence, during which he was basely betrayed and sold into slavery by the tyrant Dionysius II. of Syracuse, he presided for forty years at the head of the academy, and there he composed those *Dialogues* which have since been the admiration of every age and country. According to Cicero, he expired on his birth-day, while writing, aged 81 years, about 348 B. C. In his system of the universe, he seems to have wavered between two ideas—at one time adopting the theory that the earth neither rotates nor advances in space, but that, fixed to one central point, it merely oscillates from side to side; and at another, maintaining that the earth is immovable in the centre, which theory was subsequently called the Hipparchian or Ptolemaic. His system of philosophy, however, was in strict accordance with the physics of Heraclitus, the metaphysical opinions

of Pythagoras, and the morals of Socrates. He maintained the existence of two beings, one self-existent, and the other formed by the hand of a pre-existent creature, God and man. The world was created by that self-existent cause, from the rude, undigested mass of matter which had existed from all eternity, and which had even been animated by an irregular principle of motion. The origin of evil could not be traced under the government of a deity, without admitting a stubborn, intractability and wildness congenial to matter; and from these, consequently, could be demonstrated the deviations from the laws of nature, and from thence the extravagant passions and appetites of men. From materials like these were formed the four elements, and the beautiful structure of the heavens and the earth; and into the active but irrational principle of matter, the divinity infused a rational soul. The souls of men were formed from the remainder of the rational soul of the world, which had previously given existence to the invisible gods and demons. The philosopher, therefore, supported the doctrine of ideal forms, and the pre-existence of the human mind, which he considered as emanations of the Deity, which can never remain satisfied with objects or things unworthy of their divine original. Men could perceive with their corporeal senses the types of immutable things, and the fluctuating objects of the material world; but the sudden changes to which these are continually obnoxious, create innumerable disorders, and hence arises deception, and, in short, all the errors and miseries of human life. Yet, in whatever situation man may be, he is still an object of divine concern; and to recommend himself to the favor of the pre-existent cause, he must comply with the purposes of his creation, and by proper care and diligence

he can recover those immaculate powers with which he was naturally endowed.

Hicetas, of Syracuse, about 340 B. C., according to Cicero, taught that the sun and stars were motionless, and that the earth moved round them; and although he failed in gaining many proselytes in his own times, his labors have since been justly appreciated. This doctrine nearly proved fatal to him, as he was accused of disturbing the peace of the gods Lares.* He maintained that the sun was nineteen times further distant from the earth than the moon, and that the moon was fifty-six semi-diameters of our globe, a little more than one-third, and the diameter of the sun six or seven times more than that of the earth. The age in which he flourished is not precisely known, but his treatise on the largeness and the distance of the sun and moon is still extant, of which the best edition is that of Oxford, 1688.

* At Rome, the gods Lares (two in number, sons of Mercury and Lara) were originally supposed to preside over houses and families. In process of time their power was extended not only over houses, but also over the country and sea; and we find Lares *Urbani* to preside over the cities, *Familiares* over houses, *Rustici* over the country. *Campitales* over cross roads, *Marini* over the sea, *Viales* over the roads, *Patellarii*, etc. According to the opinion of some, the worship of the gods Lares, who are supposed to be the same as the Manes, arises from the ancient custom, among the Romans and other nations, of burying their dead in their houses, and from their belief that their spirits continually hovered over the houses for the protection of its inhabitants. The statues of the Lares, resembling monkeys, and covered with the skin of a dog, were placed in a niche behind the doors of the houses, or around the hearths. At the feet of the Lares was the figure of a dog barking, to intimate their care and vigilance. Incense was burned on their altars, and a sow was also offered on particular days. Their festivals were observed at Rome in the month of May, when their statues were crowned with garlands of flowers, and offerings of fruit presented. The word Lares seems to be derived from the Etruscan word *Lars*, which signifies conductor or leader.

Aristarchus, of Samos, appears to have been the most prominent philosopher, if not the first, who maintained that the earth not only rotated on its own axis, but also moved round the sun as the centre of the whole planetary system.

Seleucus, of Babylon, who lived 150 years after Alexander, and who is mentioned by Strabo 'among several very honorable men, as a Chaldean, skilled in the study of the heavenly bodies,' became an advocate of the hypothesis of Aristarchus, which he strenuously endeavored to establish, but met with very little encouragement during his age.

Hipparchus, of Nice, in Bythnia, whom Humboldt calls "the founder of scientific astronomy, and the greatest astronomical observer of antiquity," flourished between 160 and 125 B. C. He first discovered that the interval between the vernal and the autumnal equinox is 186 days, 7 days longer than between the autumnal and vernal, occasioned by the eccentricity of the earth's orbit. He divided the heavens into 49 constellations—12 in the ecliptic, 21 in the northern, and 16 in the southern hemisphere, and gave names to all the stars, but makes no mention of comets. From viewing a tree on a plain from different situations, which changed its apparent position, he was led to the discovery of the parallax of the planets, or the distance between their real or apparent position, viewed from the centre and from the surface of the earth. He was the originator of astronomical tables among the Greeks, and likewise made some valuable improvements in geography, by determining the latitudes and longitudes of places from celestial observation, and thereby illustrated the intimate connection which exists between geography and astronomy. His labors in numbering the stars, and arranging them according to their place

in the heavens, were such as appeared marvelous to the ancients, and were esteemed by Pliny as "achievements worthy of a god." He appears to have first conceived the idea of transferring the observed latitudes and longitudes of the stars to their corresponding places on the earth's surface—thus fixing the latter with a degree of precision which no itinerary measurements could ever attain. He made also several observations of latitude, in addition to the very few previously existing, and pointed out the mode of ascertaining longitudes by observing the eclipses of the sun and moon, which he is said to have calculated for 600 years, including the moment of their appearance at different places. In his new map of the world, founded upon that of Eratosthenes, the geographical degrees of longitude and latitude were based on lunar observations and on the measurements of shadows, wherever such an application of astronomical observations was admissible. But, as the extent of the earth's surface became developed, it was perceived how rarely the imperfect method of lunar eclipses could be employed, and the use of lunar distances was recommended as early as 1514 by the Nuremberg astronomer, Johann Werner, and others. Unfortunately, however, these methods remained impracticable until the mirror-sextant was invented by the ingenuity of Newton in 1700, and was brought into use among seamen by Hadley in 1731.

During the reigns of Adrian and Marcus Antoninus, Claudius Ptolemy, an Egyptian astronomer, geographer, and mathematician, born at Alexandria, A. D. 138, acquired still more celebrity than Hipparchus, though as an astronomer he occupies a far inferior rank. His principal astronomical discovery is the inequality of the moon's motion, technically called the *evection*; but his fame chiefly

rests on his planetary work called "*Syntax, or Composition*," in which he explains the apparent motion of the sun, moon, and planets, according to an hypothesis invented by Apollonius of Perga, some centuries before, and which consists in supposing each of these bodies to be carried by a uniform motion round the circumference of a circle called the *epicycle*, the centre of which is carried uniformly forward in the circumference of another circle, called the *deferent*. This second circle may be the epicycle of a third, and so on, as long as inequalities remain to be explained—the earth occupying a position near, but not at, the centre of the last circle. Of course this hypothesis has been demolished by the light of modern science, but in the time of Ptolemy it served to explain all the deviations from circular motion then known, particularly the phenomena of the stations and retrogradations of the planets; and it was even of service to astronomy, by offering a means of reducing the apparent irregularities of the planetary motions to arithmetical calculation. His share of the merit belonging to the invention of this ingenious hypothesis consists in the determination of the proportion between the radius of the epicycle and that of its deferent circle, and between the velocity of the planet and the velocity of the centre of its epicycle. Besides his planetary system and his geography—the last of which is valued for its learning, and will be noticed in another place—he wrote several other books, in one of which is an account of the fixed stars, of which he gives the certain and definite latitude and longitude of 1,022. The Ptolemaic system continued in vogue till the revival of astronomy and the other sciences in the fifteenth century, when it gave place to theories founded on more enlarged views and more accurate observations.

Fourteen centuries elapsed between Ptolemy and Copernicus, a Prussian astronomer, born at Thorn in 1472; and during this long interval astronomy made but inconsiderable advances. The elements of the solar and lunar tables had, indeed, received many corrections, and various improvements in the methods of observing and calculating had been introduced, principally by the Arabs; but in respect of theory, no change had taken place.

Copernicus, guided perhaps in some measure by the opinions of Pythagoras, but more by his own meditations on the planetary phenomena, in the latter half of the fifteenth century, had the glory of establishing that system of the world which is now universally recognized. The age in which he lived—the age of great maritime enterprises—of Columbus, Gama, and Magellan—wonderfully coincided with many great events: it was characterized by the awakening of a feeling of religious freedom, by the development of nobler sentiments for art, by the unfolding of comparatively illimitable regions hitherto unknown, and by the diffusion of his own inestimable theory regarding the system of the universe. He was engaged in making observations with the astronomer Albert Brudzewski, at Cracow, when Columbus discovered America. He subsequently pursued his investigations at Padua, Bologna, and Rome, in which cities he spent six years, and then returned to Cracow, where he soon became busily engaged in bringing about a thorough revolution in the astronomical views then prevalent. In 1510 he became canon of Frauenburg, where he labored for thirty-one years on the completion of his "*De Revolutionibus Orbium Caelestium*," in which he showed that all the apparent motions are easily explained by simply attributing a double motion to the earth, a diur-

nal rotation about its axis, and an annual motion about the sun. It is said that the first printed copy was brought to him when, shattered in mind and body, he was preparing himself for death, and he survived its publication but a few days—some say a few hours—dying May 24, 1543. Alexander Humboldt has taken some pains to dissipate an erroneous opinion, which “unfortunately prevails, even in the present day, that Copernicus, from timidity and from apprehension of priestly persecution, advanced his views regarding the planetary movement of the earth, and the position of the sun in the centre of the planetary system, as mere hypothesis, which fulfilled the object of submitting the orbits of the heavenly bodies more conveniently to calculation, ‘but which need not necessarily either be true, or even probable.’” So far from this opinion being well founded, Humboldt asserts that he “was more distinguished, if possible, by the intrepidity and confidence with which he expressed his opinions, than for the knowledge to which they owed their origin. In order to show that, deeply penetrated with the truth of his own deductions, he had no cause to fear the judgment that might be passed upon him, he turned his prayers from a remote corner of the earth to the head of the Church, [Pope Paul III., to whom he dedicated his work,] begging that he would protect him from the assaults of calumny, since the Church itself would derive advantage from his investigations on the length of the year and the movements of the moon. ‘By no other arrangement,’ he exclaims with enthusiasm, ‘have I been able to find so admirable a symmetry of the universe, and so harmonious a connection of orbits, as by placing the lamp of the world, *the sun*, in the midst of the beautiful temple of nature as on a kingly throne, ruling the whole family of circling

stars that revolve around him.’” The doctrine of the earth’s motion was opposed to the religious dogmas of the age, and accordingly the theory of Copernicus met with great resistance; but as observations now began to be greatly multiplied, and to be performed with greater accuracy, the evidences in favor of it daily acquired strength, and in a short time commanded almost universal assent among astronomers.

Tycho Brahe, an excellent observer, and one to whom astronomy is under the greatest obligations, made a vain attempt to save the ancient prejudices; but, on account of the physical improbability of his system, he never obtained many followers.

Kepler (born in 1571, died in 1630) made the most important step in astronomy by discovering that the orbits of the planets are not circles, but ellipses, having the sun in one of the foci. He also found that the motion of any planet in its elliptic orbit is so regulated, that the spaces passed over by a straight line drawn from the planet to the sun are equal in equal times; and that the periodic times of the different planets are in a certain given ratio to their distances from the sun. This bold and original proposition, combined with the description of equal areas in equal times, led to the discovery of universal gravitation, and all the sublime results of physical astronomy.

The idea conceived by Copernicus, and more clearly expressed by Kepler, in his admirable work “*De Stella Martis*,” received a new impulse and a more extended application, through the sagacity of the ingenious Robert Hooke, an English mathematician and astronomer (born in the Isle of Wight, 1635, died in 1702), who not only invented pendulum watches, but also several astronomical instruments for making observations both at sea and on land.

The accidental discovery of the power of the telescope to penetrate through space is by some attributed to Hans Lippershey, a native of Wesel, and by others to Jacob Adriaansz, surnamed Metius, who is said also to have "made burning-glasses of ice." The use of this instrument excited astronomers to the earnest observation of a class of phenomena, some of which could not even escape the naked eye, and resulted in perfecting and extending at once the doctrine of Copernicus.

When Galileo (early in the year 1609) heard of this great discovery, he readily conjectured what must be the essential points in the construction of a telescope, and immediately completed one for himself at Padua. M. Arago has satisfactorily ascertained that the instruments which he constructed, and others of which he made use, for observing Jupiter's satellites, the phases of Venus, and the solar spots, possessed the gradually-increasing powers of magnifying four, seven, and thirty-two linear diameters, but they never had a higher power. He immediately set about examining the mountainous parts of the moon, and showed how their summits might be measured; he also observed with low magnifying powers the group of the Pleiades, the starry cluster in Cancer, the Milky Way, and the group of stars in the head of Orion. Then followed in quick succession the great discoveries of the four satellites of Jupiter, the two handles of Saturn, (his indistinctly-seen rings, the form of which was not recognized,) the solar spots, and the crescent shape of Venus. The moons of Jupiter, the first of all the secondary planets discovered by the telescope, were first seen, almost simultaneously and wholly independently, on the 29th of December, 1609, by Simon Marius at Ansbach, and on the 7th of January, 1610, by Galileo at Padua.

The rancorous spirit of intolerance which the ecclesiastics of this period exercised towards any developements of science which did not square with their superstitious dogmas, was bitterly experienced by Galileo. For persisting to advocate the Copernican system, he was cited to appear before the inquisition at Rome, to answer the charge of heresy and blasphemy. On the 14th of February, 1633, he was formally arraigned before an authority which it was fatal to resist, and then solemnly called upon to renounce a truth which his whole life had been consecrated to reveal and to maintain, namely, "The motion through space of the earth and planets round the sun." Immediately assuming that he had nothing to allege—would attempt no resistance, and offer no defence, then came the sentence of the "holy" tribunal, banning and anathematizing all who held the doctrine that the sun is the centre of the system, as a tenet, "philosophically false, and formally heretical." They decreed his book to the flames, and they condemned him for life to the dungeons of the Inquisition, bidding him recite "once a week, seven penitential psalms for the good of his soul!"—Did Galileo yield? Did he renounce that theory now affording such ample proof of the beauty and order of the universe; to whose very laws Kepler, the friend and cotemporary of the philosopher, was even then, though unconsciously, bearing evidence, by his wonderful theorem of velocities and distances, a problem which Newton afterwards confirmed and illustrated?—Did Galileo yield? He did. Broken by age and infirmity, importuned by friends more alarmed than himself, perhaps, at the terrors of that merciless tribunal, he signed his abjuration; yielded all his judges demanded; echoed their curse and ban, as their superstition or their hate

required.—Then occurred, perhaps scarcely an hour afterwards, that remarkable episode in this man's history. As he arose from the ground on which, all kneeling, he had pronounced his abjuration, he gave a significant stamp, and whispered to a friend, "*E pur si muove!*"—"Yet it does move"—ay, and in spite of Inquisitions, has gone round—nay, the whole world of thought itself has moved, and having received an impulse from such minds, will revolve for ages in a glorious cycle for mankind! After several years of confinement at Arcetri, the great astronomer was permitted to retire to Florence, upon the conditions that he should neither quit his house, nor receive the visits of his friends. They removed him from a prison, to make a prison of his home. But he had yielded—he was no martyr! Yes, indeed! But be it remembered, that if he possessed not the moral courage of a Huss, a Savonarola, or a Luther, he was not called to exercise it in so high a cause. The assertion and support of a religious truth is impressed with far deeper obligations than the advocacy of a scientific one, however well maintained by analogy, and confirmed by reason. Still, there was a deep devotional sentiment that pervaded the character of Galileo. Before he died, he became totally blind, yet he did not despair. Like Milton, he labored on for mankind—nay, pushed his scientific studies, and invented mechanical substitutes for his loss of vision, to enable him still to pursue his arduous researches. It is true he was shut out, like the elder Herschel, from the view of that glorious company, towards which his spirit had so often soared. Well might his friend Castelli say, in allusion to his infirmity,

"that the noblest eyes were darkened which nature had ever made—eyes so privileged, and gifted with such rare qualities, that they might be said to have seen more than all those who had gone before him, and to have opened the eyes of all who were to come." Galileo himself bore noble tribute to his friend when he exclaimed, "Never, never will I cease to use the senses which God has left me; and though this heaven, this earth, this universe, be henceforth shrunk for me into the narrow space which I myself fill, so it please God, it shall content me."

The attention paid to the occultations of the satellites, or their entrance into Jupiter's shadow, led to a knowledge of the *velocity of light* (1675), and, through this knowledge, to the explanation of the *aberration-ellipse* of the fixed stars (1727), in which the great orbit of the earth, in its annual course round the sun, is, as it were, reflected on the vault of heaven. These discoveries of Romer and Bradley have been justly termed the "keystone of the Copernican system," the perceptible evidence of the translatory motion of the earth.

Newton's invention or improvement of the reflecting telescope, and his theory of gravitation, which followed these earlier advances, "presented the grand means of converting the whole of physical astronomy into a true mechanism of the heavens," while it likewise exhibited to our view the earth balanced by its own weight in the immensity of space, revolving, with all the other planets, around the resplendent luminary which distributes to each its portion of light and heat.

GEOGRAPHICAL SYSTEMS OF ANTIQUITY.

THE GREEKS.

PREVIOUS to the Macedonian expeditions into Asia, three events occurred which exercised a special influence in extending the views of the Greeks regarding the universe—namely, the attempts to penetrate beyond the basin of the Mediterranean towards the East, the attempts towards the West, and the establishment of numerous colonies, from the Pillars of Hercules to the north-eastern extremity of the Euxine, which, by the more varied form of their political constitution, and by their furtherance of mental cultivation, were of incalculable advantage in after ages. The advance towards the East, about twelve centuries before our era, is known in history as the expedition of the Argonauts to Colchis; the true version of which, however clothed in a mythical garb, or concealed under a blending of ideal images, is simply the fulfilment of a national desire to open the inhospitable Euxine. The myth of Prometheus, and the unbinding of the fire-kindling Titan on the Caucasus by Hercules during his expedition to the East—the ascent of Io from the Valley of the Hybrides (probably the Valley of the Don or the Kuban) to the heights of the Caucasus—the myth of Phryxus and Helle—all indicate the same direction of the course on which the early Phœnician navigators had adventured. Before the migrations of the Dorians and Æolians, the Boœtian Orchomenus, near the eastern extremity of the Lake of Copais, was already a rich commercial city of the Minyans; and it was from Iolcus, the principal seat of the Thessalian Minyans, on the Pœgasæan Gulf, that the Argonautic expedi-

tion set out. The locality of the myth, considered with respect to the aim of the undertaking, after having been variously modified at different times, was finally associated with the mouth of the Phasis (Rion), and with Colchis, a seat of ancient civilization, instead of with the uncertain and remote land of *Æa*. Neither Colchis, the Phasis, nor the Pillars of Hercules, were known to Homer; but Hesiod often names the Phasis. Humboldt considers the mythical traditions concerning the return of the Argonauts through the Phasis into the Eastern Ocean, and across the “double” Triton Lake, formed either by the conjectured bifurcation of the Ister or by volcanic earthquakes, as especially important in arriving at a knowledge of the earliest views regarding the form of the continents. The geographical phantasies of Peisandros, Timagetus, and Apollonius of Rhodes, were continued until late in the Middle Ages, and showed themselves sometimes as bewildering and deterring obstacles, and sometimes as stimulating incitements to actual discoveries. This réaction of antiquity on later times, when men suffered themselves to be led more by opinions than by actual observations, has not been hitherto sufficiently considered in the history of geography; but our necessarily prescribed limits forbid us now entering upon the subject. The expeditions of the Milesians, and their numerous colonial cities on the Euxine, enabled them to obtain a more exact knowledge of the eastern and northern limits of that sea, and thus gave a more definite outline to the geographical portion of the myth, by means of which a number of new and comprehensive views were simultaneously opened.

The Astronomical Schools of Miletus and Samos appear, so far at least as there is any precise record, to have made the first attempts to form geography into a system, and to apply to it the lights derived from astronomy. These and other cities of Asia Minor rank high among the early seats of commerce, and they established colonies in various quarters of the Mediterranean and the Euxine. The first rude mode of forming a division of the earth was into *climates*, determined by the species of animals and plants produced in each. Thus the negro, the rhinoceros, the elephant, were considered as characteristic of the torrid zone. This very loose method gave place to another, formed by observing at each place the length of the longest and shortest days, and this could only be done with accuracy by a gnomon or dial, erected on a horizontal plane, and showing, by the length or shortness of its shadow, the elevation of the sun above the horizon.

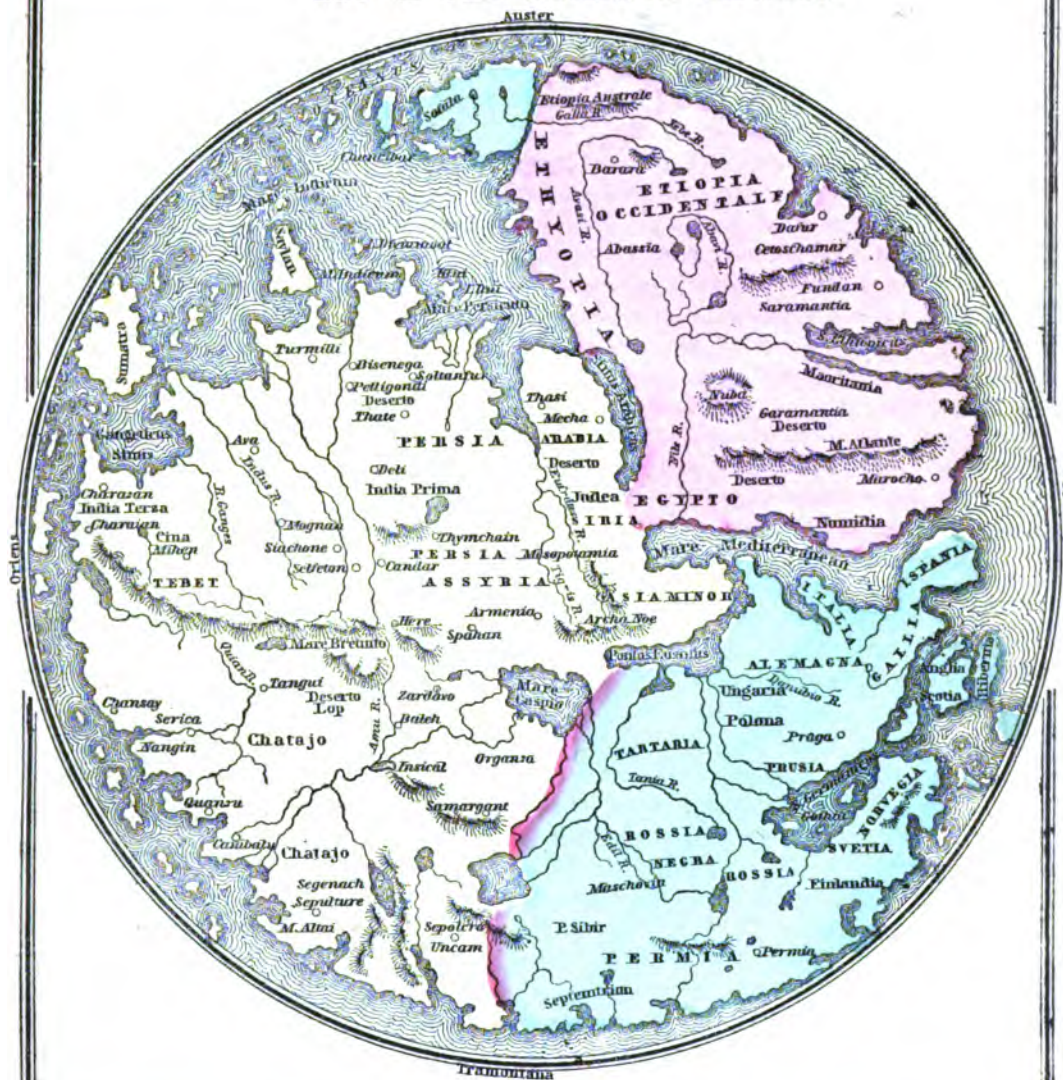
The map must, as soon as geography was cultivated, have occurred as the best and most perspicuous form of embodying its results. Anaximander is said to have been the first who constructed a map of the world, embracing that limited sphere of objects which were then comprehended under that term. But the most celebrated production of this nature was that employed by Aristagoras, the prince of Miletus, to induce Cleomenes, the Spartan king, to undertake the conquest of Persia. He entered, it is said, the presence of that monarch, holding in his hand a tablet of brass, on which were "inscribed the whole circuit of the earth, the sea, and all the rivers." Under this pompous description, however, was probably included little more than a route from the Ionian Sea to Susa, which was specially pointed to as that by which the Spartan

prince might lead his victorious troops to the Persian capital. Even of this line, by which he was so deeply interested, the short detail of Herodotus shows him to possess by no means complete information. Beyond Cilicia, his descriptions are very indistinct. He has omitted Media altogether, and has given to Armenia quite an undue extension.

The continental Greeks, during the era of their greatest power, did not cultivate systematic geography, nor indeed any sciences dependent upon mathematical principles, with much activity; indeed, they did not even keep them up to the state in which they had been received from the Ionian cities. Only one solitary observation of latitude is recorded as having been made at Athens, by Meton and Eudemon, 432 years A. C.

Herodotus, familiarly known as the "Father of History," early formed as complete a system of geography as could be composed of the materials within his reach. He was born at Halicarnassus, a Doric colony in Caria, B. C. 484, and after receiving a liberal education, at an early age he left his native city, in order to escape from the oppressive government of the tyrant Lygdamis, who put to death the poet Panyasis, a relation of the historian—probably his uncle. He resided for some time at Samos, where he acquired the Ionic dialect, and afterwards spent many years in extensive travel in Europe, Asia, and Africa—the only mode in which, at that period, reliable geographical knowledge could be collected. He was the first who taught that the Caspian Sea was a basin—closed on all sides—a fact which had been long disputed, and which, after him, was again contested for six centuries, until the time of Ptolemy. We have assurance that he visited Persia, Assyria, Egypt, Thrace, Scythia, and all

AUSLET





the distant regions which he describes; but he viewed them only as tracts of country—the abodes of men—and did not attempt to combine them into any system. In his time, the division of the earth into three continents, or *quarters*, was completely formed. Sea, or at least water, seems to have been the principle of separation, though not in all cases rigidly followed. After Europe, the Greeks seem to have named the other continents from the district immediately beyond the intervening sea. Homer mentions the name of Asia as applied to a large and fine tract on the coast of Ionia; whence it spread through the spacious peninsula of which it forms part, and which Europeans continue to call Asia Minor: but, soon passing these limits, it was vaguely extended through the boundless regions of the East, till it finally embraced the largest of the three continents. On the other side, directly to the south, the Greeks first landed on the coast of Libya, which name they applied to the whole continent. With the Romans, on the contrary, whose positions and political relations attached them more immediately to the district of Africa proper, in which Carthage was situated, the name of Africa soon prevailed over every other.—These grand divisions having been well known to Herodotus, it is certainly surprising that he should assert that “Europe is longer and of greater extent than Asia and Africa united;” and this assertion must have arisen from his misconception of what was Europe and what was Asia. He mentions two boundaries: one formed by the Black Sea and the Don, which, though it does not form a very appropriate boundary of a continent, continues still to prevail, being connected with the Northern Ocean by the mountain chain of the Urals. But in the other, which is that preferred by Herodotus,

the Black Sea is continued by the Caspian; the boundary line being carried along the north of that sea, and thence indefinitely eastward. Taking Europe in this sense, we find it in the west co-extended with the opposite coast of Africa, which the ancients necessarily considered as marking the length of that continent, while, in the east, however far Asia might be prolonged, Europe was still regarded as co-extensive. With regard to the boundaries of Africa, too, there was an extreme want of precision. Our limit of the Isthmus of Suez is certainly the most accurate; but the ancients, who could not readily admit the notion of a continent bounded by any thing but water, attached themselves more to the Nile, and did not well know whether to consider Egypt as Asiatic or African.

Scythia was the extremity of Europe, beyond Greece, with which Herodotus appears to have been most familiar, and which, in fact, he knew better than almost any other ancient writer. This name, which became ultimately Asiatic, was restricted by him to the tracts that now form the southern provinces of the Russian empire. These regions were then, and in a great measure still are, possessed by the same description of rude Nomadic and pastoral people, who have always occupied the central plains of Asia. The attention of the historian was specially called to them by the rash and daring expedition of Darius into a region secured by its natural barriers, and the wandering and untamed character of its people, against every form of regular subjection. Darius, crossing the Hellespont, marched along the southern shore of the Euxine, reached the banks of the Volga, and, after the fruitless labor of erecting there several fortresses, returned by a more inland route, in which he is even supposed to have

passed the site of Little Novogorod. The knowledge acquired by this expedition, however, did not enable Herodotus to avoid great errors in the delineation of European Scythia. He imbibed a most exaggerated idea of the dimensions of the Palus Meotis, which he calls the "mother of the Euxine." This appears to have arisen chiefly from the false *orienting* of the side which faces Russia, and which is made to stretch almost due north, instead of west, while the sea itself is represented as forming the eastern boundary of that great space of 400 miles square, within which Herodotus comprises Scythia. The southern boundary was formed by the Euxine, and the other two by the land, so that he does not connect it in any shape with the Northern Ocean.

Miletian colonies had, by the active enterprise of that commercial people, been already formed even on these rude shores. One, called the port of the Borysthenes, is described as the centre of the trade of Scythia. On the banks of this great river dwelt a people, bearing the rare character of the *ploughing* Scythians, who, renouncing the almost universal habits of their race, raised crops of grain in this fertile district, which still furnishes to the ports of Taganrog and Odessa those supplies which render them the granary of the Mediterranean. The Miletians had also a colony established at the mouth of the Danubé.

The northern interior countries of Europe, which lay beyond the limits of the Scythia explored by the expedition of Darius, were covered for Herodotus with a veil of dim obscurity. On the Scythian frontier, along the heads of the Dniester and Borysthenes, he represents several nations: the Melanchleni, "men clothed in black;" the Anthropophagi, "men-eaters;" the Neuri, "once a-year converted into foxes." These Creek

names, and partly fabulous attributes, show the very imperfect nature of the notices collected on the subject. The regions beyond the Danube are expressly stated to be occupied by nations to him unknown. Two precious commodities, the amber from the coast of Prussia, and the tin of the Cassiterides, under which last name a vague idea of the British Islands seems to be included, communicated the knowledge that there was a great ocean in the north, but without the means of ascertaining its extent and limits. On the east, however, as already observed, he had attached to Europe a vast extent of territory, which has been entirely severed from it in subsequent systems. The expanse of northern and even middle Asia, which the ancients afterwards called Scythia, and which forms the modern Tartary, inhabited by races exactly similar to the Scythians, appeared to Herodotus decidedly European. It was bounded by the Phasis, the Caspian, the Aral (not distinctly recognized), and the Jaxartes. The Massagetæ, celebrated for their contest with Cyrus, gave name with Herodotus to all the wandering tribes in this eastern part of Europe; but they were afterwards merged into the prevailing appellation of Scythians.

Asia, according to the conception of it formed by Herodotus, will appear, from what has been said, to include only a small portion of the vast continent to which we assign that name. On the north it had the same seas and rivers just enumerated as the boundaries of eastern Europe; to the east, it terminated with India; while even to the south, a large portion of the desert tracts of Arabia were not yet believed to exist. When this great historian wrote, all the various kingdoms and petty states into which, in the infancy of the world, Asia had been partitioned, were

absorbed into one vast empire. The Persians claimed Asia as their own, and had distributed it into twenty-four satrapies, which included, with the exception of the northern part, all of Asia that was known to the Greeks. His delineations of Asia, however, display, upon the whole, a surprising accuracy and extent of knowledge; yet several remarkable errors occur with regard to points of which the investigation does not appear very difficult. Thus the breadth of Asia Minor was reduced almost a half; that between Babylon and the capital of Egypt was underrated at least a fourth; and the country between the Black Sea and the Caspian was placed in the same meridian with the Persian Gulf, while it is really four degrees to the westward. These errors are the more remarkable, as the distances, instead of being in *excess*, according to almost every other ancient example, fall short of the truth. The ideas of Herodotus concerning the extent of Asia, even including all that portion of it which he assigned to Europe, could not fail to be defective. He knew nothing of India beyond the Ganges, Thibet, China, Eastern Tartary, or Siberia, more than half the superficial extent of the continent. Even his notions concerning India were most imperfect. He describes it as bounded on the East by sand, stretching into an unknown and measureless desert. From this statement it clearly appears that his India comprehended merely the western part, watered by the Indus and its five tributaries; he knew nothing of its widest and richest regions, the Gangetic provinces, Delhi, Bengal, and the Deccan; large portions were also cut off from the southern coasts of Asia, supposed to be washed by an ocean called the Red or Erythrean Sea, without any distinction of the Persian Gulf, and very little of that which is now called the Red Sea.

In his inquiries respecting Africa, Herodotus appears to have been equally diligent as concerning the other regions of the globe. Egypt is described with great accuracy, and under some features which no longer exist; for the Tanitic and Pelusiatic branches of the Nile, of which little more than the channels can now be traced, were then in full flow. It appears, however, that considerable confusion prevailed respecting the quarter of the world to which Egypt was to be adjudged. As water formed the basis of the division into continents, the sandy isthmus of Suez, believed to be broader than it really was, appeared very ill-fitted to form such a limit. The Nile, therefore, in the opinion of all the Greeks, was the boundary of the continents: all to the east was Arabia; all to the west, Libya; but a difficulty here arose in fixing the lot of Egypt itself. In tracing the Nile above Egypt, Herodotus gives a line of two months' journey, partly along the banks, and partly in boats which were dragged by ropes along the current through the rocky channel. At the end of this journey they came to Meroe, the capital of Ethiopia above Egypt, an ancient and celebrated kingdom, whose monuments were viewed with almost religious veneration, and whose monarchs had repeatedly conquered Egypt and founded dynasties. Two months' journey farther was the country of the Egyptian exiles, a numerous body, who, having revolted from Psammetichus, sought the protection of the king of Ethiopia, and were cantoned by him in this remote district, which may be Sennaar, or rather, perhaps, the branch of the Bahr-el-Abiad opposite to it; for Herodotus shows his knowledge of this last stream by observing that it comes from the west. The long tract of desert to the west of Egypt is also described by Herodotus in some detail, though apparently only from hearsay. The

most conspicuous objects here are the oases, particularly that which contains the ancient and venerated temple of Jupiter Ammon, and which has been identified with the modern Siwah. To the west he gives the names of a succession of wandering and pastoral tribes, such as still roam over these arid and sandy regions, deriving from the soil only the produce of the date-tree. The Nasamones, the most westerly as well as the most numerous of the wandering tribes, in general drove their herds along the sea-coast, but in summer repaired to the Oasis of *Ægila* (*Augila*) to collect the dates produced in that district. A tribe among this people were called the *Psylli*, or devourers of serpents; and in fact appear to have had a peculiar power of charming those noxious reptiles with which their deserts abound. Within their borders, on the side of Cyrene, where verdure first began to adorn the waste, Herodotus has fixed the fabled site of the Hesperian gardens.

The Garamantes, to the S. W. of *Augila*, and the Nasamones, are represented as inhabitants of a region infested by wild beasts, and of a timid character, flying the view and intercourse of other men, destitute of arms, and unacquainted with war. These characters do not apply to the people of modern Fezzan, which, however, is undoubtedly the tract pointed out. To the N. W. were the Gindanes (the modern *Gadamis*), among whom the license of public morals had risen to a greater height than among all the wandering tribes of Libya. Proceeding farther in the same direction, he came to the lake *Tritonis*, celebrated in ancient fable as the birth-place of *Minerva*, who, according to one legend, sprung from Neptune and the nymph of the lake. This lake forms the western limit of the long range of nomadic tribes. Beyond it, Herodotus gives us the *Maxyes*, who

cultivate the ground. He had now reached that fine range of territory belonging to Carthage, stretching along the coast, watered and enriched by streams from the Atlas. It is very remarkable, however, that he should pass by entirely that mighty and celebrated state, which was not only the most powerful in Africa, but was also the centre of industry and commerce with respect to the ancient world. It seems very difficult to conjecture his motives, unless, according to the suggestion of a learned friend, we suppose that, writing almost entirely to illustrate what was obscure, or communicate knowledge on points respecting which the world were in ignorance, he might think it superfluous to describe what must have been well known to the bulk of his readers, for the same reason that he has given no regular description of Greece. In reference to the transactions of this people with other nations, he takes repeated occasion to mention them, so that the omission could not arise from absolute ignorance.—Atlas and the desert border behind it next engage his attention—a tract reaching as far as the straits, which he calls the *high forehead* of Africa. He describes Atlas as a long and lofty range, whose highest pinnacles are wrapped in perpetual clouds, and he ascribes to the natives the origin of the belief adopted by the Greeks, which made it the pillar of heaven. Even in this extreme boundary of the continent, he mentions some peculiarities that really exist:—the enormous size and formidable character of the serpent tribe; oxen with large and crooked horns; houses of salt, which would melt away if a single shower were to interrupt the continued drought. When he begins, however, to speak of people with horses' heads, and others without heads at all, it is time to take our leave; though some learned writers suppose

this to be a mere exaggerated description of some animals of the desert. We must still follow him, however, to the western coast beyond the straits, where the Carthaginians, he was informed, carried on trade with the natives in a peculiar manner: The parties did not see each other, but, after a signal made by smoke, one laid down his proffer, went away, and left room for the other to do the same; when the first came, and either accepted or rejected the bargain, till the terms were adjusted. There have been reports in various quarters of this mode of traffic, but all, we suspect, exaggerated representations of the timid manner in which civilized traders made their approaches to those savage people who possessed any valuable commodities. The product sought upon this shore was gold: and, as it does not exist in any latitude north of the Senegal, it is probable that the trade of Carthage extended to that distant river. The interior of Africa could not fail deeply to attract the curiosity of Herodotus. The part already noticed as described by him forms only a belt along its northern coast, and includes none of the vast inland tracts. On this subject, however, he has only one tale to tell. Several Nasamonian youths of distinction, seized with that desire to penetrate the continent which has prevailed throughout all ages, departed on an expedition to the southward. They traversed three successive belts: first, the cultivated, or at least verdant and inhabited tract along the sea-shore; then, another occupied only by wild beasts; and, lastly, a region arid and desolate. Here, while plucking fruits, they were surprised by some men of small stature, who carried them by the way of very great lakes to a city inhabited by blacks, and situated on a large river flowing from west to east. This river Herodotus naturally enough, judges to be the Nile; but from

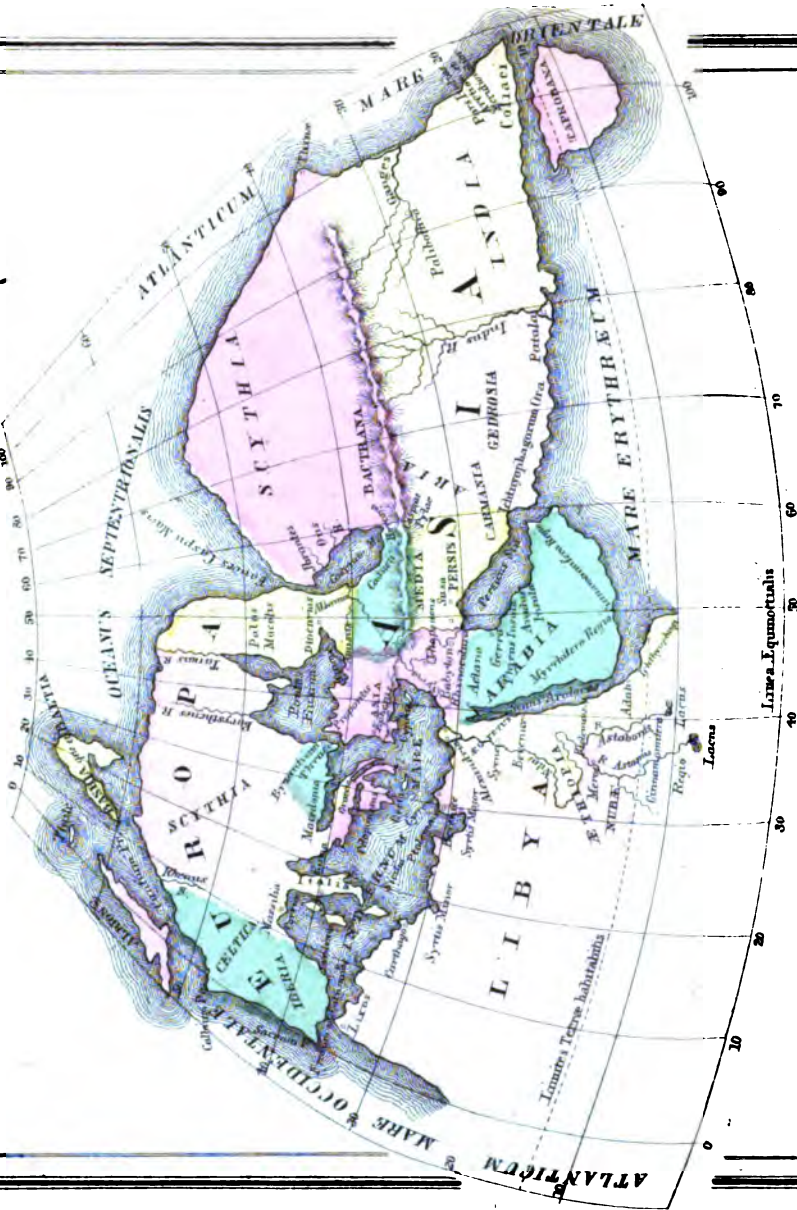
late discoveries, there can scarcely be any hesitation in fixing it as the Yeou, which rolls through Bornoo, while the Tchad may be identified with the great lakes along which the expedition was conducted.

Notwithstanding the superior advantages possessed by Greece, and the many accomplished scholars who have rendered that country illustrious, it is evident that but little progress was made in developing scientific geography until after the formation of the Greek kingdom in Egypt under the Ptolemies. The intestine wars in which the different tribes were almost constantly engaged, or the more glorious defensive struggles against foreign invasion, confined their views mainly within the limits of their own territory and its neighboring coasts and islands. But that the more learned Grecians had a pretty accurate idea of Asia and its resources, (probably acquired from traders and travelers,) is unquestionable; for Aristotle, during his second stay at Athens, before Alexander had passed the Granicus, thus speaks of the people of that country in his *Politica*: "The Asiatic nations are not deficient in activity of mind and artistic ingenuity; yet they live in subjection and servitude, without evincing the courage necessary for resistance, while the Greeks, valiant and energetic, living in freedom, and therefore well governed, might, if they were united into one state, exercise dominion over all barbarians." These dogmas of the Stagirite—however contrary to nature he may have professed to consider an unlimited dominion—no doubt made a more vivid impression on the mind of his royal pupil, than the fantastic narrations of Ctesias respecting India, and possibly determined his future operations. Be this as it may, his invasion of India certainly did much towards expanding the minds of his people, by opening a

large and beautiful portion of the earth to their influence and culture. Humboldt considers the Macedonian campaign as "a *scientific expedition*, in the strictest sense of the word," and, "moreover, as the first in which a conqueror had surrounded himself with men learned in all departments of science—naturalists, geometricians, historians, philosophers, and artists. Among these shone pre-eminently Callisthenes of Olynthus, a near kinsman of Aristotle, who had previously composed a work on botany, and a treatise on the organs of vision." Aided by the co-operation of chosen men of the Aristotelian school, he gave a higher direction to the investigations of his companions in the extended sphere of observation now first opened to them. The richness of vegetation, and the diversity of animal forms—the configuration of the soil, and the periodical rising of great rivers—no longer sufficed to engage exclusive attention: for the time was come when man, and the different races of mankind, in their manifold gradations of color and of civilization, could not fail to be regarded, according to Aristotle's own expression, "as the central point and the object of all creation, and as the beings in whom the divine nature of thought was first made manifest." From the little that remains to us of the narratives of Onesicritus, we find that the Macedonians were astonished, on penetrating far to the East, to meet with no African, curly-haired negroes, although they found the Indian races spoken of by Herodotus as "dark-colored, and resembling Ethiopians." The influence of the atmosphere on color, and the different effects produced by dry and moist winds, were carefully noted. In the early Homeric ages, and even long after that period, the dependence of the temperature of the air on latitude was wholly unknown, and the relations of east and west then

constituted the whole thermic meteorology of the Greeks. The countries lying to the east were regarded as near the sun—"sun-lands"—and the inhabitants as "colored by the near sun-god in his course with a sooty lustre, and their hair dried and crisped with the heat of his rays." Northern tracts of land were considered to lie more towards the west, and southern countries to the east. The indefinite meaning of the word *Indies*, even at that age, as connected with ideas of position, of the complexion of the inhabitants, and of precious products, contributed to the extension of these meteorological hypotheses: for Western Arabia, the countries between Ceylon and the mouth of the Indus, Troglodytic Ethiopia, and the African myrrh and cinnamon lands south of Cape Aroma, were all termed India. Alexander's campaigns first gave occasion to a comparison, on a grand scale, between the African races which predominated so much in Egypt with the Arian races beyond the Tigris and the ancient Indian Aborigines, who were very dark-colored, but not woolly-haired. The classification of mankind into varieties, and their distribution over the surface of the earth, which is to be regarded rather as a consequence of historical events than as the result of protracted climatic relations (when the types have been once firmly fixed), together with the apparent contradiction between color and places of abode, were subjects that could not fail to produce the most vivid impression on the minds of thoughtful observers. We still find, in the interior of the great Indian continent, an extensive territory, which is inhabited by a population of dark, almost black aborigines, totally different from the lighter-colored Arian races, who immigrated at a subsequent period. Among these we may reckon, as belonging to the Vindhya races, the Gonda, the Bhilla

MAP OF THE WORLD ACCORDING TO ERATOSTHENES



in the forest districts of Malava and Guzerat, and the Kola of Orissa. The acute observer Lassen regards it as probable that, at the time of Herodotus, the black Asiatic races, "the Ethiopians of the sun-rising," which resembled the Libyans in the color of their skin, but not in the character of their hair, were diffused much further toward the north-west than at present. In like manner, in the ancient Egyptian empire, the actual woolly-haired negro races, which were so frequently conquered by other nations, moved their settlements far to the north of Nubia.—In addition to other advantages, this expedition added to the science of the Greeks those materials yielded by the long-accumulated knowledge of more anciently-civilized nations: and, with an increased conception of the earth and its productions, they likewise obtained from Babylon a considerable accession to their knowledge of the heavens, as has been found from carefully-conducted investigations.

After the death of Alexander, Seleucus, who succeeded to the dominion of Syria and the East, employed his admiral (Patrocles) to make a survey of the Caspian Sea, but the information which he gained was very incomplete. The same admiral also attempted to circumnavigate Asia, but the assertion, which obtained credit in that age, that he had sailed round from India to the Caspian, sufficiently attests the failure of the enterprise. Seleucus, also, finding, probably, that the inroad of Alexander into India had been of very transient result, undertook a military expedition, the details of which are little known, and which enabled him to establish no permanent footing in the country; but he collected some further materials for the geographer, and the record of his marches appears to have been of important service to Pliny. He sent also an embassy under Megasthenes to Pali-

bothra, capital of the great Indian kingdom situated on the Ganges, from which the ancients derived a more accurate knowledge of these eastern parts of the world than they had previously possessed.

Eratosthenes, a celebrated mathematician and astronomer, born at Cyrene, 276 B. C., was the first person who attempted to measure the magnitude of the earth. After receiving a liberal education at Athens, where he was under the tuition of Lysanias of Cyrene, Ariston of Chios, and Callimachus the poet, he was invited to Egypt by Ptolemy Evergetes, and appointed to succeed Euclid in the care of the Alexandrian library. Here of course he had access to all the materials collected by Alexander, his generals and successors, and also to the immense mass of documents which had been previously accumulated. In his attempts to measure the earth's circumference he brought forward and used the method which is employed to the present day, and introduced into his maps a regular parallel of latitude; but he did not attend to the grand original divisions of the equator, the pole, or even the tropics. The line which formed the basis of his geography, and generally of that of the Alexandrian schools, was a parallel drawn across the Mediterranean, (passing through the latitude of Rhodes,) and thence prolonged through Asia. The points through which he placed this parallel were the Sacred Promontory of Iberia (Cape St. Vincent), the Pillars of Hercules, or Straits of Gibraltar, the Sicilian Straits, Capes Tænarus and Sunium in Greece, Issus, and the Caspian Gates, to the mountains of India. Although this will be found, on comparison with modern maps, to be erroneous, yet his measurements along this line will give the length

of the Mediterranean more accurately than some of the best maps a century ago. It is a little singular, and can only be accounted for by the imperfection of his instruments, that he should have made a capital error in regard to the very centre of that sea, to which he was so near, and with which he must have been familiar. Following the propensity to include all the leading positions under some one line to which they approximate, he placed in the same meridian Rome, the Sicilian Strait (that of Messina), and Carthage. The mistake with regard to the first and last of these points did not much exceed one degree; but the middle point is nearly four degrees E. from Rome and five from Carthage, and of course such errors produced others.—Besides constructing the large *armilla* or fixed circular instruments which were long in use at Alexandria, he designed and executed a new map of the earth, in which towns, mountains, rivers, lakes, and climates were marked according to his own improved measurements. "He freed geography from mythical legends, and separated geographical descriptions from that admixture of historical elements with which it had previously been not ungracefully embodied. The absence of these elements was, however, satisfactorily compensated for by the introduction of mathematical considerations on the articulation and expansion of continents; by geognostic conjectures regarding the connection of mountain chains, the action of clouds, and the former submersion of lands which still bear all the traces of having constituted a dried portion of the sea's bottom. Favoring the oceanic sluice-theory of Strabo of Lampaschus, he was led by the belief of the former swelling of the Euxine, the penetration of the Dardanelles, and the consequent opening of the Pillars of Hercules, to an investigation

of the problem of the equal level of the whole 'external sea surrounding all continents.'" His subsequent investigations emboldened him to make the assertion that the whole continent of Asia is traversed by a continually-connected mountain chain, running from west to east in the parallel of Rhodes. An animated desire to accomplish a generalization of views—the consequence of the intellectual movement of the age—gave rise to the first Greek measurement of degrees* between Syene and Alexandria, and this experiment may be regarded as an attempt on the part of Eratosthenes to reach an approximative determination of the circumference of the earth; the habitable portion of which he considered as surrounded by one great sea, of which the Caspian, the Mediterranean, the Arabian and Persian Gulfs, were inlets penetrating the land. According to his estimate, this "habitable portion" amounted to about 70,000 stadia, or 100 degrees—not quite one-third of the globe's circuit; and the other portion, consisting of a certain tract around the equator, rendered "unfit for human habitation from excess of heat," extended 8,300 stadia, or 12 degrees N. of the equator. The method by which he obtained the circumference of the globe is thus recorded: Having assumed Syene to be in the extreme limit of the tropical line, where the gnomon gives no shadow on the longest day, and Alexandria to be on the same meridian, at a distance of 5,000 stadia, he observed that at Alexandria the shadow of the gnomon, on the longest day, covered one-fiftieth part of the circle. He inferred, therefore, 5,000 stadia to be the fiftieth part of the circumference

* Humboldt calls the measurement of a degree made by Eratosthenes "the first Hellenic one," since a very ancient Chaldean determination of the magnitude of a degree in camels' paces is not improbable.

of the globe; that is, it was 250,000. This computation remained as an authority up to at least the second century of our era; but as it is evidently founded on data that only approximates rudely to the truth, no dependence can now be placed in it as a measure of length; and the incident is given merely to show how little reliance can be placed upon many of the most eminent ancient philosophers, and at the same time to notice that commendable spirit which prompted an effort to rise from the narrow limits of one circumscribed land to a knowledge of the magnitude of the whole earth. Among his maps is found a rude sketch of Britain, but he was ignorant of the existence of Ireland. Strabo states that he enumerated three points of land as the termination of Europe, viz: "The projecting point which extends to the Pillars of Hercules, on which Iberia is situated; next, that which terminates at the Sicilian Straits, to which Italy belongs; and, thirdly, that which extends to Malea, and comprises all the nations between the Adriatic, the Euxine, and the Tanais." He adds: "We begin with Europe, because it is of irregular form, and is the quarter most favorable to the mental and social ennoblement of men. It is habitable in all parts, except some districts near the Tanais, which are not peopled on account of the cold."

"The application to the different parts of the earth's surface of the principles according to which the globe was to be delineated, formed a task still more arduous than that of the first establishment of those principles." Both the latitudes and longitudes of the ancients are erroneous, particularly the latter, to which astronomical observation was never very extensively applied, and hence it is no marvel that the errors should be great

although the regular and rapid manner in which they accumulate is somewhat surprising. They begin from the Sacred Cape of Iberia (Cape St. Vincent), which the ancients made their first meridian, and continue regularly increasing eastward, thus: The Pillars of Hercules, more than 2 degrees; Alexandria, nearly 7; Issus, 10; the Caspian Gates, 14; Pattalena, or the Delta of the Indus, 23; and the mouth of the Ganges, nearly 27. Perhaps in many instances these errors may be attributed to the fact that the line adopted by Eratosthenes, the inaccuracy of which has been already shown, was followed for a long period by all itineraries; and others, again, may have arisen from the exaggerated reports of travelers and navigators, who were generally inclined to magnify all the distances over which they passed, and that, too, without intentional misrepresentation: for the windings of the route, or the obstacles they encountered, frequently caused them to view and present this particular through an amplified medium.

Hipparchus has been named the "Father of True Geography," from his happy idea of marking the position of spots on the earth, as was done with the stars, by circles drawn from the pole perpendicularly to the equator—that is, by latitudes and longitudes; and his method of eclipses was the only one by which differences of meridians could be determined. He not only made more observations than his predecessors, but he also understood them better. He was the first who gave and demonstrated the means of solving all triangles, rectilinear and spherical; and he likewise constructed a table of chords, of which he made the same use as is now made of the sines. In his new map of the world, founded upon that of Eratosthenes, the geographical degrees of

latitude and longitude were based on lunar observations and on the measurements of shadows, wherever such an application of astronomical observations was admissible.

Strabo did not possess either the numerical accuracy of Hipparchus or the mathematical and geographical information of Ptolemy; but his work surpasses all other geographical labors of antiquity by the diversity of the subjects and the grandeur of the composition. He takes pleasure in stating that he had seen with his own eyes a considerable portion of the Roman empire, "from Armenia to the Tyrrhenian coasts, and from the Euxine to the borders of Ethiopia." After he had completed the historical work of Polybius by the addition of forty-three books, he had the courage, in his eighty-third year, to begin his work on geography. He remarks, "that in his time the empire of the Romans and Parthians had extended the sphere of the known world more even than Alexander's campaigns, from which Eratosthenes derived so much aid." The Indian trade was no longer in the hands of the Arabs alone; and Strabo, when in Egypt, remarked with astonishment the increased number of vessels passing directly from Myos-hormos to India. In imagination he penetrated beyond India as far as the eastern shores of Asia. At this point, in the parallel of the Pillars of Hercules and the island of Rhodes, where, according to his idea, a connected mountain chain, a prolongation of the Taurus, traversed the Old Continent in its greatest width, he conjectured the existence of *another continent* between the west of Europe and Asia. "It is very possible," he writes, "that in the same temperate zone, near the parallel of Thineæ or Athens, which passes through the Atlantic Ocean,

besides the world we inhabit, there may be one or more other worlds, peopled by beings different from ourselves." It is astonishing that this expression did not attract the attention of Spanish writers, who, at the beginning of the sixteenth century, believed that they every where, in classical authors, found the traces of a knowledge of the New World.

"Since," as Strabo well observes, "in all works of art which are designed to represent something great, the object aimed at is not the completeness of the individual parts," his chief desire, in his gigantic work, is preëminently to direct attention to the form of the whole. This tendency toward a generalization of ideas did not prevent him, at the same time, from prosecuting researches which led to the establishment of a large number of admirable physical results, referring more especially to geognosy. He entered, like Posidonius and Polybius, into the consideration of the influence of the longer or shorter interval that occurred between each passage of the sun across the zenith; of the maximum of atmospheric heat under the tropics and the equator; of the various causes which give rise to the changes experienced by the earth's surface; of the breaking forth of originally-closed seas; of the general level of the sea, which was already recognized by Archimedes; of oceanic currents; of the eruption of submarine volcanoes; of the petrifications of shells and the impressions of fishes; and, lastly, of the periodic oscillations of the earth's crust. He expressly remarks that the altered limits of the sea and land are to be ascribed less to small inundations than to the upheaval and depression of the bottom; for "not only separate masses of rock and islands of different dimensions, but entire continents, may be upheaved." Like Herodotus, he was an attentive

observer of the descent of nations, and of the diversities of the different races of men, whom he singularly enough calls "land and air animals, which require much light." Among the civilized nations who show traces of ancient cultivation, he enumerates the Phrygians and Lycians in Western Asia, and the Turduli and Turdetani in the extreme West. It is remarked of the latter that "they are the most cultivated of all the Iberians: they employ the art of writing, and have written books containing memorials of ancient times, and also poems and laws set in verse, for which they claim an antiquity of 6,000 years." "The Sidonians," he writes, "are described as industrious inquirers in astronomy, as well as in the science of numbers, to which they have been led by their skill in arithmetical calculation, and in navigating their vessels by night, both of which are indispensable to commerce and maritime intercourse." Ever alive to the faults of his predecessors, he detected the mistakes of Eratosthenes in regard to the relative positions of Rome and Carthage, but he has been far from rectifying all his other wrong positions. He compares the Spanish peninsula to "a hide spread out," or to a parallelogram, in which he is hardly justified by the mere fact that various countries were by the ancients denominated from a fancied resemblance to some object in nature, nor are examples wanting in modern times. But the eastern side of this figure is formed by the Pyrenees, which are thus made to extend from north to south, to form the western boundary of Gaul, and to be parallel to the Rhine. Hence arises the greatest of all these errors; for Gaul is allowed to have on the ocean only one coast, which is that looking to the north, and every where opposite to Britain. Strabo treats with derision the report of Pytheas, that

the *Calbium promontorium*, the extreme point of Brittany, looked to the west, and he represents vessels as sailing to Britain as readily from the mouth of the Loire and Garonne as from that of the Rhine and the Seine.

Britain, under his system, was represented as a triangle, of which the base, or longest side, was that along the channel, and opposite to Gaul. As the coast, after passing the two extremities of this line, begins on one side to bend inward towards the Bristol Channel, and on the other to the Thames, navigators then probably considered it as continuing in these directions till it came to a point, far short of its real termination. Ierne, or Hibernia, (Ireland) appears in dim obscurity. It is said to be situated 400 miles N. from the centre of Britain, under a climate so excessively cold that there could not possibly be any inhabited country nearer to the pole. If the four hundred miles be measured from the centre of the southern coast, and allowance be made for false orienting, it will not be found so very wide of the truth. The rest of the description was probably made out by confused ideas of Scotland, and particularly the bleak mountainous tracts in the north. Eratosthenes, indeed, has derived from Pytheas a knowledge of the far northern limit of Thule, and of its appendant islands, stretching towards the Arctic sea; but, as the proud scepticism of Strabo rejected this statement, he was thrown back upon the more imperfect information afforded by the merchants of Marseilles.

The eastern shores of northern Europe occasioned still more embarrassment to the Greeks. They had, in general, the idea of this continent having the sea for its boundary; but this seems mainly to rest upon the general vague belief of a circumambient ocean, and an understanding that

Germany had on the north a maritime boundary, indicated by the amber brought from the shores of the Baltic. Here, too, Pytheas, either by personal investigation or by careful inquiry, had collected some particulars, which, if Strabo had not disdained, he would not have been left in such total darkness. After proceeding far along the German coast, that navigator, it is said, came to a great gulf (evidently the Baltic). He found *Basilia*, a very large island, the same which Pliny calls *Baltia*; being, in fact, the peninsula of *Scandinavia*, which, until it was circumnavigated, must have been regarded by navigators as an island.

The limits assigned to Asia, already too small, were contracted by the geographers of the Alexandrian school, notwithstanding the additional sources of information which they possessed respecting that continent. This error arose partly from their theory of a surrounding ocean, and partly from their neglect of the important information obtained by Herodotus respecting the countries along the heads of the Euxine and Caspian. The expedition of Alexander, indeed, and the embassy of Megasthenes, made them acquainted with the Ganges, rolling eastward through the fine plain of Upper Hindostan. Seeing it pursue this direction to the utmost limit of the then known world, they were led to conclude that its course continued eastward, and that it fell into the eastern ocean, which formed, on that side, the boundary of the continent. Connecting this with the Caspian, the only northern Asiatic sea known to them, they drew a line from one to the other, by which they excluded nearly two-thirds the extent of Asia: the Birman Empire, China, the greater part of Tartary, and the whole of Siberia. On the shore of the eastern ocean was placed *Thinæ*, evidently known only by vague rumor, and which they fixed

at the extremity of the line measuring the length of the habitable globe. Asia within and Asia beyond Taurus were made the grand divisions of that continent. That great mountain chain arising in Asia Minor was supposed to be prolonged by those of the Elburz, of Khorasan, and of Hindoo Coosh, which, in fact, there is much reason to believe, may form a chain no where wholly interrupted. Within Taurus were all the fertile, populous, and splendid kingdoms and countries of Asia: Syria, Assyria, Babylon, Persia, Susiana, Ionia, Cilicia; beyond, were the ruder tracts of Scythia, Bactria, Sogdiana; and more westerly, the Caucasian territory, and the part of Asia Minor situated along the shore of the Black Sea.

In regard to Africa, his knowledge, though accurate in some respects, was extremely limited. Adopting the hypothesis of an uninhabitable torrid zone, which formed an essential part of the reigning system at this period, he rejected the possibility of circumnavigation. The source of the Nile, being imagined to exist in regions rendered inaccessible by extreme heat, could not be considered as within the reach of discovery, although an idea prevailed that it came from the west; and Strabo even mentions a report that its source was in the remote region of Mauritania, south of the Atlas.

THE ROMANS.

So little proficiency did the Roman geographers attain in the mathematical branch of the science, that M. Gosselin does not hesitate to assert that they remained always strangers to its very first elements. We certainly have no evidence of any attempt to combine their materials into one harmonious system, or to fix their positions with that strict accuracy alone reached by

astronomical observation. Yet no nation employed greater diligence in the operations of practical survey, which, indeed, was absolutely requisite, in connection with that predatory warfare in which they were almost incessantly engaged. Itineraries were thus the only form in which the results of Roman investigation were presented. Vegetius informs us that when war was to be carried into any country, the first care was to procure a complete set of routes, and place them in the hands of the general. These itineraries, it is observed, "ought, if possible, to contain, not merely the intervals, in paces and Roman miles, between one place and another, but the quality of the roads, the surrounding objects, mountains and rivers, delineated with the utmost precision. They were not only to be noted, but painted, that the commanders might not know merely, but see before their eyes, the route by which they were to proceed." The Romans became thus the surveyors as well as the conquerors of the world; and every new war in which they engaged, every new conquest which their arms achieved, produced a fresh accumulation of materials for the use of the geographer. Even after a country was subdued, the necessity of accurate survey did not cease. The empire was long held in a state of mere military occupation; camps formed at proper distances were connected by those excellent and durable roads, many of which remain to this day. No sooner had Julius Cæsar seated himself on the undisputed throne of the empire, than he caused a *senatus consultum* to be passed for a general measurement of the Roman world. This task, it is said, was intrusted to "the most prudent men, adorned with every endowment of philosophy." The east was assigned to Zenodotus, the west to Theodotus, and the south to Polycletus. In the

course of twenty-five years, as we are informed by Æthicus, the whole was completed. Julius Cæsar, however, did not long survive the commencement of this great work, which the civil wars probably suspended. It was apparently resumed and completed under the reign of Augustus and the ministry of his son-in-law Agrippa, to whom it appears, from Pliny, to have been afterwards ascribed.

In the most flourishing era of its history, however, Rome produced two geographers whose works have been of much service to later times—Mela and Pliny. Of the former, who was a native of Spain, and flourished under the Emperor Claudius, scarcely any particulars have transpired, except that he was the first Roman author who composed a formal treatise on geography; it was entitled "*De Situ Orbis Libri III.*," and contains a brief description of the whole world as known to the Romans. The text is often corrupt, but the style is simple; and although every thing is compressed within the narrowest limits, the monotony of the catalogue is occasionally diversified by animated and pleasing pictures. In forming his system, he does not appear to have possessed those extensive measurements and itineraries, which were probably deposited in the imperial archives. Faithful, however, to the object of his treatise, "*de situ orbis*," he discovers very considerable anxiety to determine the position of the globe, and trace with accuracy its general outlines. He adopts the general principles of the school of Eratosthenes, incorporating into it the new features which had been afforded by Roman conquest; but does not appear to have comprehended their idea of the globular form of the earth, nor is he very perspicuous in any thing that he says upon the subject. He begins—"All that, whatever it

is, to which we give the name of the world and heaven, is one thing, and in one circuit embraces itself and all things!"—vague and pompous expressions, to which no determinate idea can be attached. We find him, however, adopting in its fullest extent the belief of a circumambient ocean; and when he speaks of the "high earth in this middle part of it," and describes the sea as going under and washing round it, we are led to believe that he viewed the earth as a sort of cone, or as a high mountain raised by its elevation above the abyss of waters. Having made a vague division of the world into east, west, and north, he distributed it into five zones—two temperate, one torrid, and two frigid. Only the first two were habitable; and that on the south was inaccessible to man, on account of the torrid regions intervening. According to this system, there was on that side another earth, inhabited by people whom he calls *Antichthones*, from their opposite position with respect to that part which we inhabit. The form and boundaries of the known and habitable earth are thus delineated: The Mediterranean, with its branches of the Straits, the Euxine, and the Palus Mæotis; its great tributaries, the Nile and the Tanais; these combine, in his conception, to form the grand line by which the universe is divided. The Mediterranean itself separates Europe from Africa; and these continents are bounded on the east, the former by the Tanais, the latter by the Nile; all beyond or to the east of these limits was Asia.

In drawing the outline of Asia, he adheres very strictly to his Alexandrian models. It presents, he says, a huge and perpetual front to the eastern ocean, its shores being occupied by the three farthest known nations—the Indians on the south, the Seres in the middle, and the Scythians on the

north; but the territory of the Indians and Scythians is rendered in a great measure uninhabitable by the extremes of heat and cold. The limited extent of his accurate information is apparent from the representation he gives of this ocean, as flowing directly north from the point of Colis (Cape Comorin), the Ganges flowing into it, and the Scythians occupying its shores as far as "the Caspian Bay." He even inclines to credit the report of an Indian vessel having been driven round by stress of weather to the coast of Germany.

Europe, as described by Mela, extends from the Tanais and Cadiz, and, with the exception of its eastern river-limit, is bounded every where by seas and oceans. Its leading feature is the Mediterranean, joined to the Euxine and the Palus Mæotis, which are considered only as prolongations of that sea; while the Ægean, the Ionian, and the Adriatic seas, form its three great gulfs. The western part he divides into the Tuscan and the Libyan seas. His delineation of the exterior coasts marks a great advance of knowledge. He assigns to Spain a northern, and to France a western coast of great extent, and adds that the Pyrenees, after separating France from Spain, enter the latter country, and penetrate to its extremity, when they face the Atlantic. Here the whole chain of the Cantabrian mountains is considered, by no very strained meaning, as Pyrenean. In treating of these outer shores of Europe, and the "huge and infinite sea" on which they border, Mela relates, with exaggerating wonder, the phenomena, unknown to a Mediterranean people, of the tides, "that mighty movement by which the sea alternately advances and returns into itself, overflowing the lands, driving back mighty rivers, and sweeping away the strongest

land animals." His speculations on the cause are singular: either the world is a great animal whose breathings excite in its breast these alternate movements, or it contains deep caves, into which the waters are alternately absorbed and ejected. He does, however, mention the theory which supposes them influenced by the moon, and remarks their correspondence with the movements of that body. In treating of the Cassiterides, or Islands of Tin, which include, as is quite apparent, the Scilly Islands and Cornwall, he shows considerable perplexity, only observing that they are "in Celticiis," indicating their close alliance with France. In regard to Britain itself, he confidently undertakes to give the world better information, in consequence of the victories of "the greatest of of princes" over nations hitherto unsubdued and unknown and he certainly makes a great progress beyond the imperfect notions of Strabo. He describes Britain as presenting two extensive oblique coasts, one looking towards France, the other towards Germany; the two forming a great angle nearly opposite to the mouth of the Rhine. The coasts then began to bend inwards, and form a triangle, varied with numerous points and angles, and somewhat similar in form to Sicily. The country is described as flat, large, and fruitful, but, contrary to what now obtains, more favorable to the support of flocks than of men. The natives were uncultivated, warlike, and ignorant of wealth; they were accustomed to paint their bodies, and to ride in chariots. Above Britain was Juverna, (Ireland), nearly equal in size, and of an oblong form, its soil scarcely fit for the production of grain, but its pastures so luxuriant, that if the cattle were allowed to feed for more than a short period of the day, they died of repletion. The relative dimensions assigned to Britain and Ire-

land would seem to show that the former was known only in its southern part; yet the writer discovers himself not unacquainted with the Scottish Islands. He mentions thirty Orcades, in which number the Shetland Islands are probably included.

In proceeding to the east and north, Germany is described as a region of great extent, intersected by many rivers, and covered in a great measure with woods and marshes. The inhabitants were tall, and remarkable for courage and strength, continually exercised in war and hard labor, eating raw flesh, and clothed partly in the bark of trees. Passing the Vistula, we enter into Sarmatia, extending to the Danube, rather a vague limit, but the term is evidently meant to comprehend the greater part of modern Poland. The people are some stages in barbarism beyond even the Germans, having no cities or even settled abodes, and carrying their fierceness to such a pitch, that hunting and bending the bow were considered the best accomplishments of their females, no one of whom, the writer even asserts, could enter the matrimonial state till she had killed her man. On this shore he represents the Codanus Sinus, a great bay filled with large and small islands; no where presenting an expanse resembling a sea, but dispersed and scattered in narrow channels like rivers—a description very applicable to the entrance of the Baltic and the Danish Islands. In common with all the ancients, he appears to have been ignorant of any thing like a continent on the other side of this great bay.

The outline of Africa sufficiently shows his limited range of information. This continent he views as a triangle, the greatest length of which, measured in his system from the Nile to the Atlantic, is considerably less than the length of

Europe. Of this triangle, the Nile forms the base; and from thence the southern coast, or that of the Ethiopic Ocean, continually approximates to the northern, till, beyond the Pillars of Hercules, it tapers almost to a point. The origin and course of the Nile are a subject of much speculation. One account, esteemed by him as tolerably credible (*aliqua credibile*), identifies it with a great Ethiopian river, called, in the language of the natives, Nuchul; which, while all other rivers tend towards the ocean, alone flows eastward to the central region, and no one knows where it terminates—a striking coincidence with the actual observation of the moderns, respecting that celebrated stream denominated the Niger. Elsewhere, however, he propounds an hypothesis of a much more extraordinary character: He says, that if there be another earth (on the south of the equator), and *Antichthones* opposite to us, "it might not be departing too far from the truth" to suppose that the Nile arose in that earth, and reached our side of the globe by a channel beneath the ocean. Thus it would naturally swell during the summer solstice, which, on the side of the world from which it came, was the season of winter. The lower part of the course of the Nile he describes with less accuracy than Strabo, the two channels of the Astapus and Astaboras being made branches of the Nile itself, first separating and then re-uniting. His ignorance respecting even the shores of the Red Sea is proved by their being filled with poetical wonders; the pigmies waging their ancient war with the cranes; the phoenix, after a life of four hundred years, dying, and reviving from its ashes. Proceeding to the interior and remoter shores of Ethiopia, he finds always new wonders, sphynxes, birds with horns, flying horses, etc. He refers to the voyages of

Hanno and of Eudoxus, to whom he ascribes a variety of fables, by which the reputation of these navigators has been much and perhaps unjustly tarnished; lastly, he comes to the Fortunate Islands, of which the soil produces all things spontaneously, and the fountains are possessed of miraculous virtues.

Pliny the Elder, who did much towards extending the Roman knowledge of geography, was born either at Verona or Novum Comum, A. D. 23; and after being thoroughly educated at Rome by the best teachers, he went to Germany, where he served as a cavalry officer under Pomponius Secundus. It appears from notices of his own that he traveled over most of the frontier of that territory, having visited the Causi, the sources of the Daube, etc. He returned to Rome with Pomponius in 52, and practised for some time as a pleader, but he does not seem to have greatly distinguished himself in that capacity. Towards the close of Nero's reign, during the greater part of which he had lived in retirement, devoting himself to his voluminous works, he was appointed procurator in Spain, where he remained until invited to Rome by the Emperor Vespasian, whom he had known in the Germanic wars, and with whom he was on terms of intimacy. His great encyclopedic work, "*Historia Naturalis*," which, by the comprehensiveness of its contents, surpasses any other production of antiquity, is, as his nephew Pliny the Younger has elegantly remarked, "manifold as nature itself." By "*Natural History*," the ancients understood more than modern writers would usually include in the subject: it embraced astronomy, meteorology, geography, mineralogy, zoology, botany—in short, every thing that does not relate to the results of human skill or the products of human faculties.

In his preface, Pliny says that this one work comprises twenty thousand matters of importance, drawn from about two thousand volumes; and when we consider that he was also the author of many other extensive works, while at the same time discharging laborious official duties, it is, to say the least, a wonderful monument of human industry. Unfortunately Strabo's great work, which was so rich in facts, remained almost wholly unknown in Roman antiquity until the fifth century, and was not even made use of by this universal collector, who seems to have possessed, without it, an ample store of geographical materials. He considers Europe as by far the most beautiful and fruitful of the three divisions of the globe, and applauds the opinions of those who describe it as a *half*, separated from the other half by the Tanais and the Mediterranean. This capital error will not appear so surprising, when we consider that the regions here compared with Europe were Asia terminated by the Ganges and the Jaxartes, and Africa extending only a few hundred miles inland from the Mediterranean. Europe had been computed by Agrippa at 3440 miles in length, and by Polybius at only 2440; which last dimension is nearly correct. Pliny discovers a clear conception of the form of Spain, drawing the Pyrenees from the south-east to north-west, and observing that Spain, "where it begins from them, is narrower than France, and even than itself." The position of Britain in the map of Europe is very fairly given; though, to enumerate Spain, with France and Germany, among the countries to which it is opposite, partakes too much of antiquated theories. He states the belief of Agrippa that Britain was 800 miles in length, and 300 in breadth; Ireland the same in breadth, but shorter by 200 miles; which is a tolerable estimate, the

last particular excepted. His disposal of the islands around Britain is not a little confused. He mentions the Orkneys, seven *Æmodæ*, and thirty *Ebudæ*, but without showing any precise idea of how they stand. Not only the Isle of Man, but that of Wight also, is placed between England and Ireland. He commits also a remarkable error when he mentions Cassiterim or Cattiterim, where tin is produced, as an island at the distance of six days' sail from Britain. To the remotest point, Thule, he assigns the attributes of a region beneath the Arctic circle, having only one day and one night in the year; and only a day's sail from the Cronium or Concrete Sea. Here, also, he mentions reports of other islands, Scandia, Bergos (Bergen) and Nerigon, which have intercourse with Thule. These features evidently belong to the coast of Norway.—In describing the north of Europe, he begins from the northern shores of the Euxine, and Palus Mœotis. The latter receives the Tanais, flowing from the Rhipæan Mountains, and forming the boundary of Europe. Beyond that celebrated and demifabulous range, he still finds the Hyperboreans, a people screened from every noxious blast, leading a happy life, exempt from old age, sickness, discord, and grief; till at length, satiated with felicity, they throw themselves from a rock into the sea. These fables are qualified with the saving clause, "if we are to believe them," which shows that the faith of Pliny was not implicit. The shores of the ocean, he confesses, are "marked by uncertainty." On the authority of Xenophon Lampsacenus and of Pytheas, he reports Basilia or Baltia as an island of immense magnitude, three days' journey from the Scythian coast. Proceeding westward, he comes to the Cimbric Chersonese, and opposite to it another island.

Scandinavia, of unexplored magnitude, but which was by many described as forming quite another world. Thus Baltia and Scandinavia, approached from different points, are considered as two distinct insular territories, the vast extent of which appears to be better apprehended by Pliny than by any other ancient writer.

Asia is delineated according to the general ideas of Strabo and Mela. The Caspian or Hycanian Sea is a gulf opening into the northern or Scythian ocean, which is in communication with that called Seric or Oriental. Pliny seems to have fuller information of the grandeur and wealth of India than any of his predecessors. Its inhabitants and its cities were innumerable, and it was reported on good authority to form a third of the whole world. It enjoyed gentle breezes, two summers, two harvests, one before, another after the periodical winds. Blessed with these advantages, this happy people were never known to emigrate beyond their own territories. He describes the marches of Alexander, from the measurements of Diognetus and Bæton, and where these fail, he continues them by those of Seleucus, and by the embassy of Megasthenes, as far as the mouth of the Ganges. These itineraries seem very good. In treating of Taprobane, he observes, that it had been believed by some to be an opposite continent or earth, but that the inquiries of Alexander had clearly proved it to be an island. His report, however, that the country of the Seres was seen from it, implies a most inadequate and erroneous conception of the eastern coasts of Asia.

The Africa of Pliny does not differ in its general outline from that of Mela. His access, however, to the archives of the empire, and his acquaintance with some of the Roman generals, enabled him to give new details as to some of its most interior

tracts. The region of Atlas had been first penetrated in the reign of Claudius, by Ædemon, an adherent of the extinct family of the Ptolemies, who sought refuge there. Suetonius Paulinus, with whom Pliny had conversed, found it of immense height, covered with snow even in summer; on one side rising from the sands, rough, horrid, and bare; on the other, covered with thick groves of unknown species of trees, and sparkling with fountains. An account is given of a voyage along the western coast, which Polybius had made by order of Scipio. Only the names of the places and the distances are given. The former coincide in a great measure with those of Hanno; and if Polybius was right in this coincidence, his report tends much to confirm M. Gosselin's view of the limited extent of Hanno's discoveries. In the time of Vespasian, another expedition, under Cornelius Balbus, penetrated into and conquered Garama (Germa), and Cydamus (Gadamis). The Romans here beheld with surprise houses built of salt, and on digging to a small depth, water sprung out of the sand. A number of names of conquered places are here given, which it is difficult to recognize; for it seems too hasty to identify Boin with Bornoo. A theory of the course of the Niger was formed by Pliny from these materials with considerable pains, but very imperfect success. Its source, according to King Juba, existed in Mauritania, and it is even said to have been found by Suetonius Paulinus after a few days' march to the south of the Atlas. The Niger springs here from a lake; but soon, indignant at flowing through sandy and squalid tracts, it passes under ground for several days, and emerges into another lake of Mauritania. After a circuit, however, of some extent, it again disappears, and having pursued a subterranean course of twenty days, reappears,

dividing Africa from Ethiopia. At last, in its passage through Ethiopia itself, it assumes the character of the Nile, first in two channels, Astusapes and Astaboras, enclosing the island of Meroe, and afterwards uniting to form the entire and proper Nile. This wild and absurd detail evidently includes the course of several rivers belonging to different and widely-remote regions of Africa.

Only a few fragments of the itineraries which guided the "masters of the world" to conquest are now remaining: the most memorable is that which bears the name of Antoninus. It has been ascribed by some to Severus, by others to Theodosius, and in fact contains many particulars which could not have been written prior to the era of the last sovereigns; but it seems probable that there were successive editions, with such amendments and alterations as time suggested. It is a mere skeleton road-book, with nothing but the names of places and their distances from each other. The same may be said of Jerusalem Itinerary, exhibiting in great detail the route from Bordeaux to that city.

The *Peutingerian Table* is a more remarkable monument, and may be considered, probably, as a specimen of the "painted roads" of the ancients. It forms a map of the world, constructed, however, on the most novel and peculiar principles. Its dimensions being twenty feet in length and one in breadth, an idea may be formed of the correctness with which the proportion of the different parts is exhibited. The high road which traversed the Roman empire in the general direction of east and west is made the first meridian, and to this every other part is subjected. The objects along this line are minutely and faithfully exhibited; of those lying to the north and south of it, only some general notion can be conveyed: these are all re-

presented, of course, most enormously extended in length and reduced in breadth.

ALEXANDRIAN SCHOOL.

(THE SECOND.)

Alexandria, by her contributions to geography supplied to a great extent the deficiencies of Rome; and, even in its subject condition, still retained the impulse received from the Ptolemies—continuing to be the second in magnitude and the foremost in learning of the vast Roman empire. In the second century a geographical school was established there and at Tyre, possessing more ample materials and resources, and connected together by more accurate and scientific arrangements, than any that had previously existed. To the itineraries of the Macedonian were now added those of the Roman conqueror, which, extending in a different direction, embraced many of the countries to the north and west—Gaul, Britain, Germany, Spain, and Mauritania—hitherto comparatively unknown to the Greeks. The method suggested by Hipparchus of subjecting the whole of geography to astronomical principles, and of fixing the position of every spot upon the globe according to its longitude and latitude, was now attempted to be carried into full effect. The attempt, however, was made in a rude manner, and upon a narrow basis of observation, and therefore not only presented a very imperfect edition of the new system, but involved errors which caused it in some respects to retrograde even from the rude state to which it had been brought by the former school.

Notwithstanding the commercial greatness of Tyre, which suffered little, if any, diminution under the Roman empire, no system of geography seems to have been much cultivated either by its navigators or its merchants. Marinus, a native

Tyrian, attempted to arrange geography into a new and more accurate form, to which he applied the astronomical principles of Hipparchus; but as his labors were productive of little else than a series of enormous exaggerations, we shall not burden our readers with any of the details.

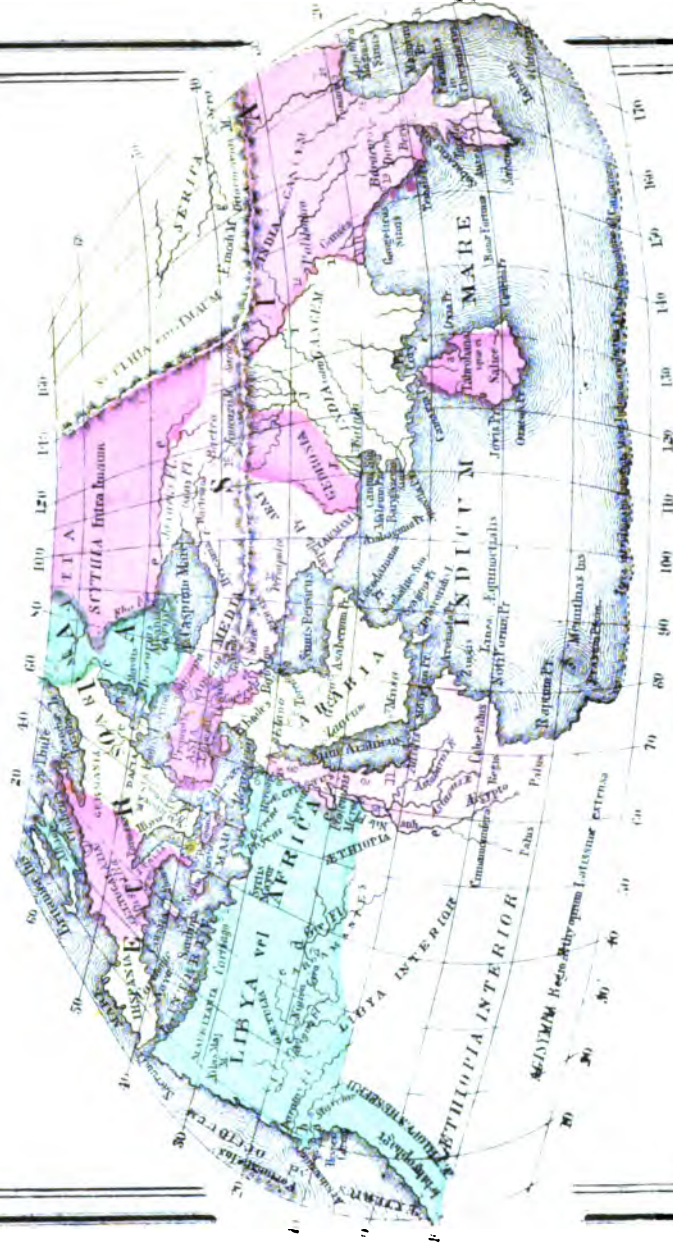
Among the numerous works of Ptolemy, who has been already noticed, the "*Almegist*" is the most valuable for geographical purposes: it treats of the relations of the earth and heaven; the effect of position upon the earth; the theory of the sun and moon, without which that of the stars cannot be undertaken; the sphere of the fixed stars, and those of the five stars called *planets*. His last great work, however, (*Universal Geography*) which is almost destitute of views of a truly physical character, and which may be regarded as the last attempt made by the ancients to form a complete geographical system, was accepted as the text-book of the science; and it maintained that position during the Middle Ages—at least until the sixteenth century—when the rapid progress of maritime discovery caused it to be partially superseded. We say "partially superseded," because it continued for a considerable period after to be the favorite guide to travelers, by whom every new discovery of places was supposed to be recognized in it under some other appellation. In the same manner as natural historians long continued to include all recently-discovered plants and animals under the classifying definitions of Linnæus, the earliest maps of the "New Continent" appeared in the *Atlas* of Ptolemy, which Agathodæmon prepared at the same time that, in the remotest part of Asia, among the highly-civilized Chinese, the western provinces of the empire were already marked in forty-four divisions! It had, indeed, the advantage of presenting a pic-

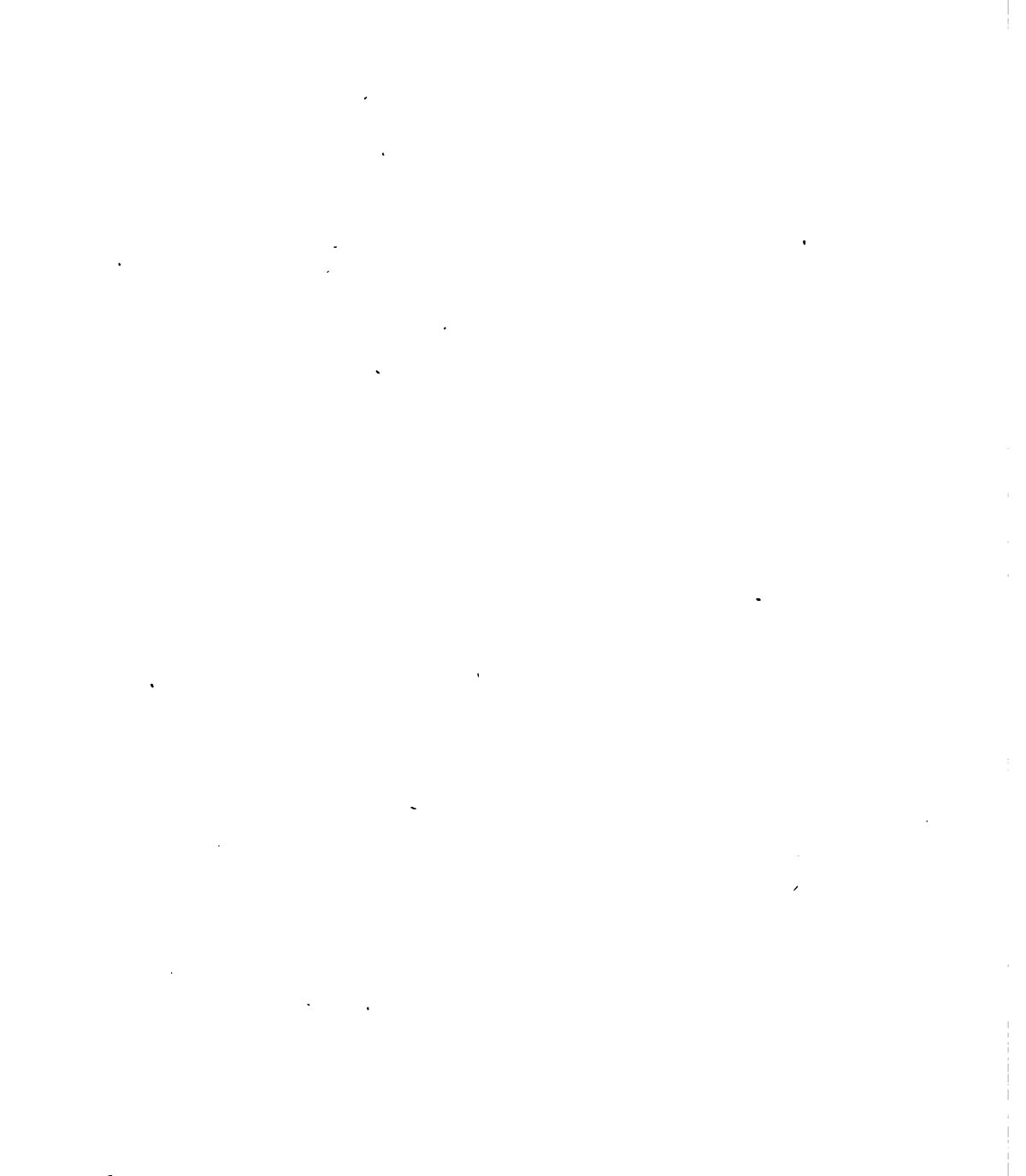
ture of the whole world, represented graphically in outlines and numerically in determinations of places, according to their parallels of latitude and longitude, and to the length of the day; but, with all its constant references to the advantages of astronomical results over mere itinerary measurements by land and sea, it is unfortunately impossible to ascertain among these uncertain positions (upwards of 2,500 of which are given), the nature of the data on which they are based, and the relative probability which may be ascribed to them, from the itineraries then in existence. Though he did not actually introduce any new principle into geography, he was the first who combined together all the sound views of his predecessors, and formed out of them a just and harmonious delineation. Yet he was far from reaching his aim of forming a perfect system. He still retained the erroneous measurement of the degree formed by Posidonius, and of which Marinus had made so unfortunate a use. Hence, while he felt the extravagance of the distances assigned by his predecessor, in consequence of the adoption of the degree of 500 stadia, he extricated himself but partially from the same error.

A reference to the Map of the World according to Ptolemy, here introduced, will show the particular features in which he differed from his intelligent predecessors; and wherever a material deviation occurs, especially when it is in the right direction, it may probably be ascribed to the superior facilities he derived from the additions which were constantly being made to the general stock of geographical knowledge. On the other hand, his errors, perhaps, were partially owing to the wilful misrepresentations or unconscious exaggerations of those upon whom he relied for information.

MAP OF THE WORLD BY PTOLEMY

130 years B.C.









NOTES ON MAP A.

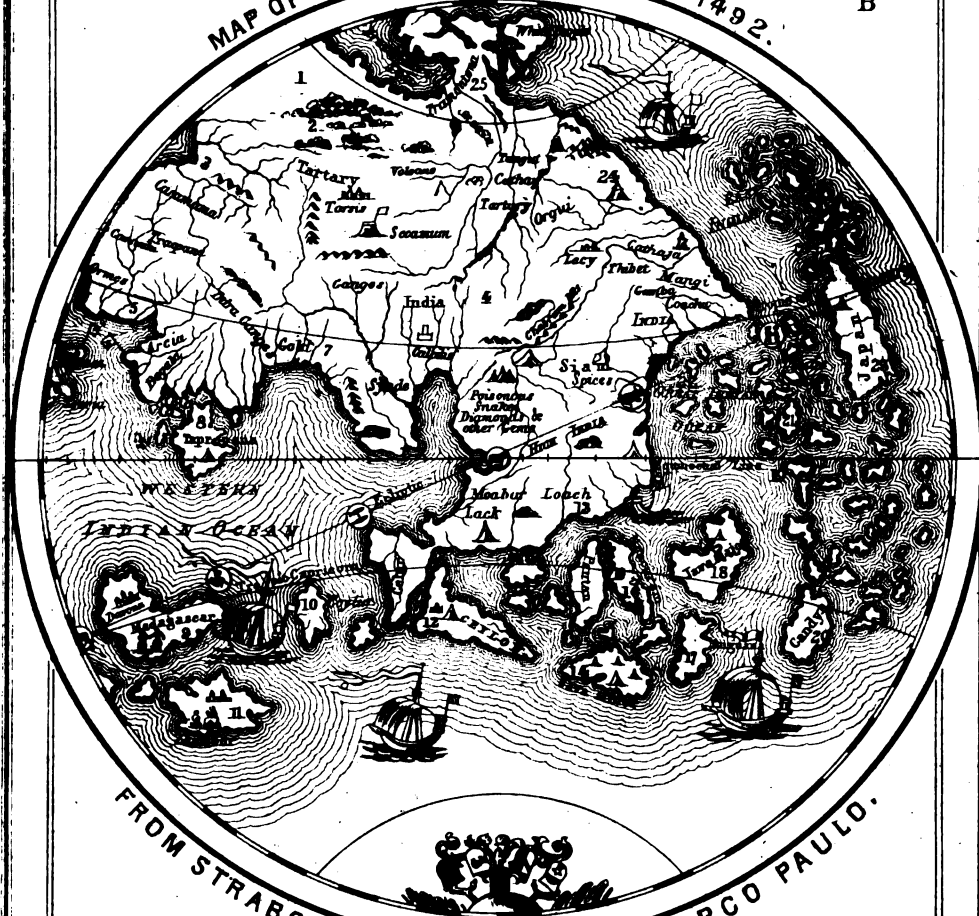
- A.—BE IT KNOWN, That in this present map of the globe, is measured the whole world, according to its length and breadth, by the art of Geometry, which Ptolemy in his book called Cosmology; a part is compiled from his writings, and the rest is from Marco Paulo of Venice, who traveled in the East A. D. 1250; also from the noble Doctor and Knight John of Maundeville, A. D. 1522, who left us a book, in which he gives the unknown lands of Ptolemy which lie in the East, together with the Islands from which we receive spices, pearls and precious stones, which he has brought to light. But under King John of Portugal were discovered those regions unknown to Ptolemy. He sent his ships southward, A. D. 1485, in which expedition I, who projected this sphere, was present. Towards the east lies the great ocean. I also passed over those regions spoken of by Ptolemy: to the Pillars of Hercules, to the Azore Islands, Fayal and Pico, which the noble Knight Jobstein v. Hurter of Morkirschen discovered, who sent out his Flemish people to settle it, and which he owns and governs. I also visited the distant regions of the world towards the north, called Tramentana in the writings of Ptolemy. I visited Iceland, Norway and Russia, which is known to us now. Ships sail there yearly, and no one need doubt it, although the world [course or route] is so simple that you can go or sail to all and every part of it, as is shown on this map.
1. In this island are found beautiful white Christian people. Dogs sell very dear. They exchange their children for bread; here are found people who have not eat bread for 80 years; no corn grows, and instead they eat dry fish.
 2. Alexander the Great advanced to this point.
 3. In the year 1490 there lived in these islands many thousand people of the German and Flemish nations, under the noble Knight H. Jobstein v. Hurter of Morkirschen, in Flanders, to whom these islands were given by the Dutchess of Burgundy. Here grows the Portugal sugar. There is no winter, and provisions are very cheap; and for that reason many people come hither.
 4. Soldan, King of the Holy Land, lord of many kingdoms in Arabia, Egypt and Damascus.
 5. Here the Moors came with their paroes for gold.
 6. Domains of King Mormelli, of whom the King of Portugal obtains gold.
 7. The Kingdom of the three Kings of Saba.
 8. This land was converted by St. Matthew.
 9. Island of Martini, where it is summer when we have winter in Europe. The birds and animals are formed different from ours.
 10. These islands were discovered by the ships sent out by the King of Portugal to the Moorish lands in 1484: there was nothing but a wilderness, no people, nothing but forrests and birds. It was made a penal settlement for male and female convicts, and land was given them with agricultural implements, that they might till the land and support themselves, so that these lands might belong to the kingdom of Portugal.
 11. In 1484 King John of Portugal sent out three ships, provisioned for three years; he gave orders for the ships to sail to the place where Hercules set up his pillars in Africa (towards mid-day and towards sunrise); he supplied the ships with all kinds of merchandise for exchange or sale; also, 18 horses, with magnificent trappings, to be given one to each of the Moorish Kings, who in return were to give us all kinds of spices and wares of their countries. Being equipped, we sailed from Usilippona, in Portugal, to the Island of Madeira, where the Portuguese sugar grows; thence to the Fortunate Islands, and to the Canaries, where we found a Moorish King, and exchanged presents with him. We then went to the Kingdom of Gambia, where paradise seed grows, distant 800 German miles from Portugal. We then went to Furfur, 1,200 miles from Portugal, where pepper grows; at some distance from this place we found cinnamon. As we had now sailed 1,200 miles from Portugal, we turned back, and, after an absence of nineteen months, we arrived home.
 12. In the year of the Lord 734, when the Moors of Africa took all Spain, these islands were taken possession of by an Archbishop of Portugal, with seven Bishops and other Christian men and women, who fled in a ship from Spain with all they possessed. In 1414 a ship was there from Spain.

NOTES ON MAP B.

1. In this region of wilderness they obtain great quantities of furs. The cold is so great that the people build their houses below the ground, and cover them with skins; they enter them by ladders.
2. This wilderness lies on the boundary of Tramantora; it is several days' journey wide, and 360 days' travel long.
3. This land belongs to the great Tam Mortant, a great Lord in Tartary.
4. This region of India was governed by the great Emperor and Bishop Johann, who governed one of the kingdoms of the three holy kings—Jaspar, Balthasar and Melchior—in the North; he was a good Christian and Knight.
5. A. D. 1285, these two islands were inhabited—the one by men, and the other by women, who came together once a-year; they are governed by a Bishop, who is under the Archbishop of the Island of Scoria.
6. Scoria is an island, and lies 500 Welch miles from the islands Masculina and Teminea. The inhabitants are Christians, who have an Archbishop for a Governor. Silk, called *ambra*, grows in abundance, concerning which Marco Paulo writes in his 3d Book, chap. 38.
7. This land, through which the river Ganges flows, is spoken of in the Book of Genesis. It is reported that the best gold is found in this region. In the Holy Scriptures, in 3d Book of Kings, in the 9th and 10th chapters, it is said that King Solomon sent his ships to this place to get gold, costly pearls, and precious stones of Ophir.
8. Of this island many wonderful things are related in ancient history. They assisted Alexander the Great, and they accompanied the Emperor Pompey to Rome. This island is 4,000 miles in circumference, and is divided into four kingdoms, in which is found gold, pepper, camphor, lignum vitae and aloes; also, gold sand. The people worship idols, and are large and strong; they are good astronomers.
9. The mariners of India, (where St. Thomas is buried), and of the land called Moabar, sail with their ships to this island, called Madagascar in twenty days; and when they return, their voyage is nearly three months—the cause being that the sea runs very quick to the southward. Marco Paulo tells of this in his 3d book, 37th chapter.
10. In the time of John of Maundaville, people lived in this island having dog's heads. The North Star is not seen in this region; wherefore mariners sail by the Astrolabe, which the compass does not show.
11. This island, called Zanzibar, is 200 miles in circumference. The people have their own king and language; they worship idols. They are large and powerful; one man has the strength of four of our men; they go naked, are black, and badly formed, with long ears, wide mouths, and large monstrous eyes; hands four times that of ours. Their women are hideous to behold. They live on milk, rice and meat. No wine grows there, but they make a good drink of rice and sugar. They trade largely in a silk called *ambra*, and elephants' teeth. Elephants, lions, leopards, monkeys, also a variety of other animals, widely different from ours, are found. Whales are also caught there in great numbers. Marco Paulo mentions this in his 3d Book.
12. In this island of Ceylon are found plenty of precious stones and pearls. The king has the largest and most beautiful ruby the world ever saw. Men and women go naked. No grain grows here but rice. The king is subject to no other; it is a kingdom of itself. They worship idols. It is 2,406 miles in circumference, so writes Marco Paulo in his 3rd book, chapter 21. *Item*.—In later years the great Emperor of Cathay sent a message to the King of Ceylon, saying he wanted that great ruby, for which he was willing to give an enormous sum; the king answered that his forefathers had kept it, and he would not part with it, to be taken into a foreign country.
13. Sailing from the kingdom of Loach towards the south, you come to the island Pentan, where there are immense forests. The sea about here is ten steps lower, so says Marco Paulo, chapter 7th, 3rd book.
14. The island of Java Minor is 2,000 miles in circumference, comprising eight kingdoms; they speak a different language, and worship idols. Spices of all sorts grow. In the Kingdom of Boesman there are many elephants; the monkeys have human faces and members. No grain grows here, but they make bread of rice; instead of wine, they drink the juice which drops from certain trees, which is red and white, and is very good. In the

MAP OF THE WORLD, COMPILED IN 1492.

B



FROM STRABO, PTOLEMY, PLINY & MARCO PAULO.

By Martin Benhaim, Nurenburg.



Kingdom of Samara it is customary, when their idols say that a sick person is going to die, for their friends to come and choke him before he dies; they then cook the flesh, and eat it, so that the worms may not eat the body. In the Kingdom of Jambri, the men and women have tails just like dogs. There are elephants and other animals. There is very good spice. In the Kingdom of Tanfur, the best camphor grows. Immense trees grow in these islands; between the bark and the wood there is a juice which, when prepared, is very good to eat, according to Marco Paulo, who was there five months.

15. Marco Paulo says this island is called Neucuran, lying 150 miles from the island of Java Major. Allspice, cinnamon and cloves, also sandalwood, and other spices, grow here.
16. In this island are precious stones—rubies, saffires and oriental pearls.
17. Marco Paulo informs us that the people in the island of Anguana have dog's heads, eyes and teeth, and are badly formed; they are cannibals; they eat rice, instead of bread, boiled with milk; they worship idols. All kinds of spice, different from ours, grow here.
18. 1,500 Welch miles distant from the island of Java Major, 5,000 Welch miles in circumference. The king is subject to no one; they worship idols. All sorts of spice, pepper, cinnamon, cloves, allspice, grow here in abundance, and are sent from here all over the world; wherefor many ships stop here.
19. No ship that has any iron on it or in it can sail here, on account of the magnetic stones, which grow in large numbers.
20. In the island of Gandyn, and the islands of Java Minor, Angama, Neucuran, Penthan, Ceylon, also the highlands which lies towards the south, the North Star is not seen; they have a star called Antarcticus. When we have day, they have night; when the sun sets, they have their day. The one-half of the planet which we can not see, they can see, which shows that the land and water makes a round form, which God created. So writes John of Maundeville in his book of travels.
21. Any one wishing to be informed of the great number of curious fishes in the sea, and animals on land, may read the books of Pliny, Vircani, Strabo, and other writers.
22. Marco Paulo informs us that mariners have discovered over 1,270 islands in this Indian Ocean, which are inhabited. Here are found precious stones, pearls, gold, and twelve sorts of spices; also, a very curious people, of whom much can be said.
23. In this island of Cipango (Japan) the people worship idols. The king is subject to none. A good quality of gold is found; also, precious stones, diamonds and pearls; so says Marco Paulo.
24. The Russians in this land have to go in sleighs drawn by dogs to get furs, on account of the perpetual snow.
25. Marco Paulo writes that in this region of Tramentona, near the North Star, live a people whom the Tartars call Permiani; they worship an idol made of furs, called Natigay. In the summer they move northward in the valley under the North Star; they catch all sorts of fish and animals, whose flesh they eat, and their skins they use for clothing. In summer they live in the mountains; in the winter they move southward towards Russia. Their houses are underground, because the strong wind, called Aquillon, blows there; they cover their houses with skins. In winter they have no day, but in summer they have constant sunshine, day and night. When we have midsummer, then a little grass and herbs grow there, which they eat. No grain, wine or fruit grows there, on account of the severe frost.

To accommodate our text to the artistic arrangement of this delineation of ancient ideas, a slight divergence from strict chronological order will be necessary, for the purpose of introducing Marco Polo into a company of sages, with whom he never expected to find himself in such close proximity. He was a Venetian noble, whose family, like many others of the same rank, was engaged in extensive commerce, and some of whom had visited Tartary and China, but for other and more profitable purposes than extending the sphere of geographical knowledge. It seems, however, that they *did* make certain discoveries, which were not altogether confined to the "nakedness of the land," and which induced the pope (very disinterestedly, of course!) to send out an ecclesiastical mission, accompanied by the youthful Polo—then only nineteen. The religious results of this pious expedition (for such it ostensibly was) have never been chronicled by any of the holy fathers who were active in its service; but doubtless they were of incalculable benefit—if not in enlightening the minds of the benighted heathen, at least in lightening their pockets of the "root of all evil!" After an absence of twenty-four years, during which time they visited the remotest regions of Asia, the party returned to Venice, so laden with jewels and precious stones, with which they dazzled the eyes of their countrymen, that they were not at first recognized. Marco being afterwards (in 1295) made prisoner by the Genoese, was persuaded to beguile the time of his confinement in dictating a narrative of his travels to a fellow-prisoner and friend (Messer Rustigielo of Pisa), which it is said he was readily enabled to do by his method of compiling; but in regard to that method, we know nothing. When the book (entitled *Il Milione di Messer Marco Polo*) was

published, it was read with great avidity, and soon translated into all the European languages; but many of the statements were so incredible, even in those times of credulity, as to procure for their author the nickname of a personage introduced into comedies for the sake of reciting every species of extravagant fable. Later travelers, however, have verified the narrative of Polo in all its most essential points, and Humboldt not only styles the author "the greatest traveler of any age," but also speaks of his production as a "great and admirable work," although he considers it inappropriately termed a narrative of "travels," it being "for the most part a descriptive—one might say, a statistical work."

"It has often, and with singular pertinacity, been maintained, that the admirable work of the truthful Marco Polo, and more particularly the knowledge which it diffused regarding the Chinese ports and the Indian Archipelago, exercised great influence on Columbus, who is even asserted [in Irving's "Life and Voyages"] to have had a copy of Marco Polo's narratives in his possession during his first voyage of discovery.* Columbus and his son Fernando make mention of the Geography of Asia by Æneas Sylvius (Pope Pius II.), but never of Marco Polo. What they know of Quinsay, Zaitun, Mango, and Zipangu, may have been learned from the celebrated letter of Toscanelli in 1474 on the facility of reaching Eastern Asia from Spain, and from the relations of Nicolo de Conti, who was engaged during twenty-five years in traveling over India and the southern parts of China, and not through any direct acquaintance

* The first German Nuremberg version of 1477 appeared in print in the life-time of Columbus, the first Latin translation in 1490, and the first Italian and Portuguese translations in 1496 and 1502.

with the 68th and 77th chapters of the second book of Marco Polo. The first printed edition of these travels was no doubt the German translation of 1477, which must have been alike unintelligible to Columbus and to Toscanelli. The possibility of a manuscript copy of the narrative of the Venetian traveler being seen by Columbus between the years 1471 and 1492, when he was occupied by his project of "seeking the east by the west," cannot certainly be denied; but wherefore, in a letter written to Ferdinand and Isabella from Jamaica, on the 7th of June, 1503, in which he describes the coast of Veragua as a part of the Asiatic Ciguare near the Ganges, and expresses his hope of seeing horses with golden harness, should he not rather refer to the Zipangu of Marco Polo than to that of Pope Pius?"

Presuming that our readers will care very little for a lengthened analysis of this work, celebrated as it is, we shall dismiss it with a brief sketch of the route pursued by Polo. He appears to have first proceeded along the northern shore of Asia Minor, then the seat of a flourishing Turkish dynasty. He passed through Armenia, along the lofty ridges of Ararat, and, descending the Euphrates through Curdistan, came to Bagdad, no longer the capital of the caliphate, but still a flourishing and civilized city under its Tartar conquerors. He visited the great commercial capital of Ormuz, and thence proceeded eastward through the southern part of Persia, by Kerman and Kubees, across the great salt desert. At length he reached Balkh, which, though still a considerable emporium of central Asia, presented only in its ruined temples and spacious squares the vestiges of its ancient grandeur. Then passing along the borders of Cashmere and the mountain tract of Balashan (Badakshan), celebrated for its mines

of rubies, he ascended to the elevated plain of Pamere, forming the summit of that cross branch of the Himalaya called the Beloor. On this, which appeared to him the highest ground in the world, he felt that difficulty in respiration, and in producing combustion, which is peculiar to the most elevated mountain sites. He afterwards reached the large Tartar cities of Yarkund and Cashgar, and entered on that great eastern tableland which, before and since, has formed the Terra Incognita of Asia. He then entered Northern China, which he calls Cathay, and visited its capital, Cambalu, his description of which strikingly coincides with that of the modern Peking. He afterwards visited Mangi or Southern China, and found in its capital (Quinsai) a scene eclipsing all that he had beheld either in Europe or in the East. It is described as a most immense, and, from its splendor and the beauty of its situation, almost a magic city. In fact, Hangtchoofoo, which corresponds with Quinsai, though it has long ceased to be the capital of China, is still a very large city, very charmingly situated. From China, Marco Polo passed through the Indian Archipelago, hearing only of Great Java, but visiting Sumatra, which he calls Little Java. He touched at the coasts both of Malabar and Coromandel, and learned many particulars respecting India and its people, which have since been confirmed by modern observation. He returned by the Red Sea to Europe.

THE ARABIANS.

THERE are no means of tracing the manner in which this people first attained their geographical knowledge; but it is well known that the science was studied with greater ardor among the Arabian states than at any other place or country, except

Alexandria. The mathematical sciences—and above all, astronomy—were long favorite pursuits at the court of Bagdad; and the ample resources which they afforded were applied with considerable care to the improvement of geography. The tables of many of their philosophers afford materials that are still useful for the construction of the maps of Interior Asia. The incursion of the Moguls into China soon served to extend the international relations of the Arabs, from the light thrown on geography by their observations and careful investigations, from the coasts of the Dead Sea to those of Western Africa, and from the Pyrenees to Scherif Edrisi's marsh-lands of Wangarah, in the interior of Africa. According to the testimony of Frähn, Ptolemy's geography was translated into Arabic by order of the Calif Mamun, between the years 813 and 833; and it is not improbable that several fragments of Marinus of Tyre, which have not come down to us, were employed in this translation. Of the long series of remarkable geographers presented to us in the literature of the Arabs, it will be sufficient to name the first and last, El-Istâchri and Alhassan (Johannes Leo Africanus). Geography never acquired a greater acquisition of facts, even from the discoveries of the Portuguese and Spaniards. Within fifty years after the death of the Prophet, the Arabs had already reached the extreme western coasts of Africa and the port of Asfi. Whether the islands of the Guanches were visited by Arabian vessels subsequently to the expedition of the so-called Almagrurin adventurers to the *Mare tenebrosum*, is a question that has lately been regarded as doubtful. The determinations of longitude which Abul-Hassan, Ali of Morocco, an astronomer of the thirteenth century, had em-

bodied in his work on the astronomical instruments of the Arabs, are all calculated from the first meridian of Arin. M. Sédillot the younger first directed the attention of geographers to this meridian, and Humboldt also made it an object of careful inquiry, because Columbus, who was always guided by Cardinal d'Ailly's *Imago Mundi*, in his fantasies regarding the difference of form between the eastern and western hemispheres, makes mention of an *Isla de Arin*. Sédillot the younger places the meridian of Arin in the group of the Azores, while the learned commentator of Abulfeda (Reinaud) assumes that "the word Arin has originated by confusion from *Azyn*, *Ozein*, and *Odjeiu*, an old seat of cultivation (according to Burnouf, Udjiyayani in Malwa), the Ozène of Ptolemy. This Ozène was supposed to be in the meridian of Lanka, and in later times Arin was conjectured to be an island on the coast of Zanguebar, perhaps the Isumon of Ptolemy."

Among the advances which science owes to Arabian skill and research, it will be sufficient to mention Alhazen's work on *Refraction*, partly borrowed, perhaps, from Ptolemy's *Optics*, and the knowledge and first application of the pendulum as a means of measuring time, due to the great astronomer Ebn-Junis. Leplace not only gives the credit of this last discovery to Ebn-Junis, but he also ascribes the first combination of the pendulum with wheel-work to Sanctorius, in 1612; therefore 44 years before Huygens.

The Arabs have served as a uniting link between ancient and modern science; and had it not been for them and their love of translation, a great portion of that which the Greeks had either formed themselves, or derived from other nations, would have been lost to succeeding ages.

THE DARK AGES.

DURING that period which has been emphatically termed "the Dark Ages"—while the offspring of Tartar chiefs were desolating the most flourishing countries of Asia and Europe, and while ignorance and superstition were striving to extinguish the torch of science which had been lighted in the palmy days of Greece and Egypt—all the remains of ancient learning sought an asylum within the sacred walls of secluded monasteries, where the manuscripts of many classic writers were carefully preserved, though little consulted. It is true, several of the more ambitious monks pretended to do something towards illustrating the geography of Europe; but they only succeeded in betraying their gross ignorance, which was shamefully apparent by the fact, that some of these would-be teachers were not even acquainted with the capital of their own country, or with the cities in their immediate vicinity!

Fortunately, some of the crowned heads became emulous of rescuing the age from this condition of profound ignorance, and Charlemagne and Alfred particularly distinguished themselves by endeavoring to promote the science of geography. In addition to other devices, the former constructed a silver table, on which was delineated the whole world, so far as his knowledge extended; but, unluckily, the materials were too costly; and in the course of a short time they were considered of greater value than the work for which they were used. As a consequence, the silver world disappeared from this mundane sphere—being melted down, and distributed abroad piecemeal to supply the necessities of the French kingdom!—Alfred constructed a more valuable and a more durable monument—one, too, which could not perish in the usage: it consisted of a detailed

description of the north of Europe, collected from the best available materials, and which is still regarded as the best record of the geographical knowledge of that age.—"The Domesday Book," drawn up under the direction of William the Conqueror—in which the population, the culture, and the taxes paid by each district are minutely exhibited—has not, even in "this enlightened nineteenth century," lost much of its ancient importance; it is now treasured both as a literary curiosity, and as a valuable statistical document.

THE CRUSADES

ORIGINATED a series of events which exercised a powerful influence in dispelling the mental darkness that involved the Western regions, and in preparing the way for that light of science and intelligence which subsequently dawned upon them. Not only the Holy Land, but the extensive domains of the Saracen and the Turk, became interesting objects of inquiry; and searches among the writings of ancient geographers were well rewarded by the additions thus made to the previously-existing stock of knowledge.

Sanudo compiled a map of the world, annexed to Bongar's "*Gesta dei per Francos*," in which the ideas formed out of the crusading expeditions are fully exemplified: Jerusalem is placed in the centre of the world, as the point to which every other object is to be referred; the earth is made a circle surrounded by the ocean, the shores of which are represented as every where nearly equidistant from that spiritual capital, the site of which is, indeed, remarkable for its relation to the three continents, Asia, Europe, and Africa. Persia stands in its proper place; but India, under the modifications of Greater and Lesser, is confusedly repeated at different points.

ANCIENT PIONEERS IN DISCOVERY.

TRAVELERS of antiquity, as we have seen, did much towards making us acquainted with the physical features of the earth; but those whose "home is on the ocean wave" did much more, by revealing the existence, position, and resources of countries unknown, even after Columbus had written, "The world is small—much smaller than people suppose." By whatever motive impelled—whether by what is now expressively termed "the almighty dollar," the desire of fame, the gratification of curiosity, the love of adventure, or by some higher aspiration—certain it is that those who first sought to establish national intercourse by trade and commerce, to unravel the myths and mysteries connected with distant regions, to diffuse the gentle spirit of Christianity over the "waste places of heathen lands"—frequently the shallow pretence for murder and rapine, and for devastating the once happy homes of "untutored savages"—certain it is that they encountered perils and hardships from which the stoutest hearts might well shrink appalled. We, who now luxuriate in magnificent "steam-palaces," and outstrip the wind in our admirable clippers, have but faint notions of the sort of craft which paved the way for our present enjoyments.

PROGRESS OF SHIP-BUILDING.

Noah was not only the first "naval architect," but also the first navigator of whom we have any well-verified record; and as he was guided by divine assistance and command, his bark no doubt answered very well for all the purposes intended. If any model ever existed, it must have been lost sight of in after ages; for we hear of

no further attempts to build vessels until the Egyptian nation was formed. As they were well versed in all the arts and sciences practised before the Deluge, transmitted by the descendants of Noah and his family, it is somewhat strange that they did not devise a better method of ship-building than that which characterized their primitive efforts. It is said that the first craft used on the Nile was constructed of planks, measuring about three feet square, cut out of the acacia, or Egyptian thorn; these were lapped over each other like tiles, and fastened together within wooden pins. The joints and seams were carefully calked with the papyrus, and benches of the same material were formed for the rowers. As the necessity of some impelling and directing force in aid of human labor was soon felt, a rudder and a sail were quickly added. The sail, which was made of the papyrus, was fastened to a pole serving as a mast, which was made of the acantha. As such vessels were incapable of stemming the current of the river when the wind was unfavorable, they were towed by persons on the bank, and when they went with the current, their motion was accelerated by tying a hurdle of tamarisk to the prow, and letting it down into the water; the stream acted on the hurdle with greater force than it did on the sides of the vessel, and thus increased the velocity of its motion very materially. In order to preserve a due balance between the head and the stern, which might otherwise have been destroyed by the action of the hurdle, they caused a stone of considerable magnitude, pierced through the middle, to be suspended by a rope from the stern, which enabled them to swim nearly with an even keel.

The first contrivance to supply the place of a commercial vessel is generally admitted to have been a kind of raft, or collection of trees fastened together with ropes, made from the bark. But as in a structure so rude they were altogether without the power of directing their course, they set about remedying this inconvenience, by putting a few thick planks to the depth of three or four feet in the water between the joists of the trees which composed the raft. These being raised or lowered at the pleasure of the pilot, served in some measure the purpose proposed. With no better contrivance than this, the Phœnicians are said to have visited the islands of Sicily, Corsica, and various others in the Mediterranean. It is also worthy of observation, that floats answering to the description of these were found in the South seas in the last century.—Although the Greeks were not remarkable for a spirit of commercial enterprise, yet the remains of antiquity furnish us with ample evidence of the advances which they made in the art of ship-building. They had vessels of different forms and sizes, distinguished, according to their use, into ships of passage, of burden, and of war. The latter were likewise designated triremes, quadremes, and quinquiremes, according to the number of banks of oars, which were raised in a sloping direction one above another. Those which had most banks were built highest, and rowed with the greatest strength. The Greeks, in all probability, derived their knowledge of ship-building from the Carthaginians, a warlike and trading people, descended from the Phœnicians, who were celebrated for their skill in the construction and management of vessels.

The modern art of ship-building appears to have been derived from the northern tribes, among whom we find that trees hollowed out like canoes

were first used. The Crusades first gave the impulse to improvements, which, notwithstanding, continued for some time at a low ebb. The states of Venice and Genoa probably first increased the size of their ships, but they were soon surpassed by the Spaniards, who introduced cannon into their naval service. The Hanse Towns made such advances in naval architecture, that in the fourteenth century it was usual for them to let their ships out to foreign princes. In the reign of Henry IV. ships of considerable size began to be built in England, and they continued to increase in magnitude until the reign of Henry VIII., when two very large ships were built—namely, the *Regent*, of 1,000 tons burthen, and the *Henry Grace Dieu*, which was larger. From the reign of Charles II. the navy of Great Britain acquired great importance, and in consequence of the wars which have occurred in several subsequent reigns, it has risen to its present state.

HISTORICAL SKETCH OF NAVIGATION.

The Phœnicians, particularly those of Tyre, who were the first trading people on record, were also the first to make fleets, and, by the aid of astronomical observations, to extend their voyages to some distance from their own shores. It is related that on one occasion, when making a voyage to the south, they proceeded 4,000 geographical miles east of Cerne and Hanno's Western Horn, far within the tropics, to the Prasodic and Indian Seas. Whatever doubt may exist regarding the localization of the distant gold lands (Ophir and Supara), and whether these gold lands are the western coast of the Indian Peninsula or the eastern shores of Africa, it is at any rate certain that this active, enterprising Semitic race, who so early employed alphabetical writing, had

a direct acquaintance with the products of the most different climates, from the Cassiterides to the south of the Straits of Bab-el-Mandeb, far within the tropics. The Tyrian flag floated simultaneously in the British and Indian Seas; and commercial settlements were formed in the northern parts of the Arabian Gulf, in the ports of Elath and Ezion-Geber, and on the Persian Gulf at Aradus and Tylos, where, according to Strabo, temples had been erected, which, in their style of architecture, resembled those on the Mediterranean.—The expeditions sent by Hiram and Solomon, and which were undertaken conjointly by Tyrians and Israelites, sailed from Ezion-Geber through the Straits of Bab-el-Mandeb to Ophir (Opheir, Sophir, Sophora—the Sanscrit *Supara* of Ptolemy). Solomon, who loved pomp, caused a fleet to be constructed at the Red Sea, and Hiram supplied him with experienced Phœnician seamen and Tyrian vessels—"ships of Tarshish." Careful investigations have rendered it highly probable that the Phœnicians, who had been early made acquainted with the periodic prevalence of the monsoons, through their colonies on the Persian Gulf and their intercourse with the inhabitants of Gerrha, must have visited the western coasts of the Indian Peninsula. Columbus was even persuaded that Ophir (the El Dorado of Solomon) and Mount Sopora were a portion of Eastern Asia—the *Chersonesus Aurea* of Ptolemy.

The Carthaginians followed the course of their ancestors, the Tyrians, and addicted themselves so thoroughly to trade and navigation, that they surpassed every other nation of antiquity in the cultivation of these two arts. They first made the quadremes, or four-oared galleys, and probably were the first who made cables for their large vessels of the shrub spatum. They likewise pushed

their discoveries to a vast extent—becoming perfectly acquainted with the Mediterranean and all its ports, and proceeding to the westward further than any other nation. Britain and the Canaries were known to them, and in the opinion of some they even went as far as America. The formidable fleets they fitted out, the quantity of shipping they always kept in their employ, and the honor they so long enjoyed of being the masters of the sea, sufficiently attest the advances which they made in navigation. As the Greeks and Romans were more addicted to war than commerce, they employed their shipping principally in transporting their men to the countries they were going to attack, or in engaging their enemies at sea. That the Athenians excelled all the other Greeks in their maritime warfare, is evident from the victories which they gained over the Persians by sea. As to the Romans, they are said by Polybius to have been utter strangers to naval affairs, and quite ignorant of ship-building, before the first Punic war, when a Carthaginian galley having accidentally stranded on the coast of Italy, was taken by them, and served as a model for the construction of vessels. Of this they made so good a use as to raise a fleet of 120 galleys, with which they were enabled to beat the Carthaginians on their own element. It does not appear, however, that either of these people went to any considerable distance, either for purposes of trade or curiosity.

In all other countries navigation was encouraged solely for the purposes of commerce—as by the Egyptians and the Byzantines, and subsequently by the Venetians and Genoese—until the time of the Crusades, when a spirit of adventure was excited throughout all Europe, and preparations were made for voyages to the Holy Land, which led to the improvement of navigation.

As to the art of navigation generally, nothing contributed so much to its advancement as the invention of the mariner's compass, in the fourteenth century, which gave so great a facility to the exploring of unknown regions. It now assumed a much bolder character than formerly. The English, Portuguese, Italians, and Spaniards, pushed their vessels into districts of ocean never previously traversed, and thus the way was fairly opened for maritime discovery. The first European discoverer who made use of the compass, and partly improved its construction, was Prince Henry, a son of the king of Portugal, and who is known in history by the name of *Henry the Navigator*. This intelligent and enterprising prince (born 1394, died 1461), with the concurrence of the Portuguese government, set on foot a series of maritime enterprises, with the view of discovering a route to India by way of the Atlantic. These voyages ultimately proved successful; the islands of Puerto Santo, Maderia, and the Canaries, were successively discovered, and annexed to the crown of Portugal. In 1433, the Portuguese navigators penetrated beyond Cape Bojador, on the coast of Africa, which was considered an extraordinary performance; another expedition afterwards went as far as Cape Blanco, and discovered the island of Arguin and the Cape de Verd Isles; and in 1448, the Azores were reached and made known. Henry the Navigator thus struck a spark which kindled to a flame all over Europe. Not long after his death, the Guinea coast was added to the Portuguese discoveries. In 1484, the Congo was reached by Diego Cam; in 1487, the Cape of Good Hope was doubled by Bartholomew Diaz; and in 1498, Vasco de Gama touched the shores of Hindostan. The Portuguese having received an assignment from the pope of all lands that

could be discovered on the African coasts, the Spanish government, burning with anxiety to emulate the late proceedings of its neighbors, was compelled to seek out new countries in a different direction. Ferdinand and Isabella, the sovereigns of Spain, listened, therefore, to the speculations of Columbus regarding a route to India across the Atlantic, and sent him off on a mission. About the year 1499, Amerigo Vespucci, under an appointment from the Spanish government, discovered the coast of the South American continent, and hence the name of *America* was given to the New World, although, as is well known, Columbus had previously discovered and landed on South America, without being aware that it was the continent which he had reached.

Several subsequent voyages by Spanish navigators disclosed the extent of the east coast of South America; and in 1513, Nunez de Balboa crossed the isthmus of Panama with an exploring party of his sailors, and made the discovery of the Pacific Ocean on the west coast of that continent. It was now seen that America was not, as had been at first believed, a portion of Asia or India, but was a separate territory of vast extent lying between the Atlantic and Pacific. There was yet a doubt with respect to the southern extremity of America, but in 1520, Megellan made the passage from the Atlantic to the Pacific by the straits which separate America from the island of Terre del Fuego, at about the 53d degree of south latitude, and so removed all doubt upon the subject.

The finding of the longitude had early engaged the attention of writers; for we find that Pedro Nunez, or Nonius, published a treatise on this subject in 1537 in the Portuguese language, which was afterwards printed at Basil in Latin, under

the title of "*De Arte et Ratione Navigandi*." In this work the problem of determining the latitude from two observations of the sun's altitude and the intermediate azimuth is resolved.

As the errors of the plane chart had been much complained of by those who were conversant with the subject, Gerard Mercator was led to construct a universal map, for the purpose of obviating those objections, the use of which was afterwards fully illustrated by Mr. Edward Wright, of Cambridge, who, in his "*Correction of certain Errors in Navigation*," printed in 1599, showed the true method of dividing the meridian from Cambridge, as also the manner of constructing the table, and its uses in navigation. The method of approximation by what is called the middle latitude, is mentioned by Gunter in his works, printed in 1623, but was not brought into general use until some time after. The application of logarithms to navigation was also made by this author in a variety of ways; but Thomas Addison, in his "*Arithmetical Navigation*," is said to have been the first to apply logarithmic tables to the cases of sailing. From this time several writers in England and elsewhere contributed to the improvement of the science.

In the mean while, several maritime discoveries were made by the English nation. In 1496, John Cabot discovered Newfoundland, and explored it up to latitude 67°. In a subsequent voyage, the father and son sailed as far as Cape Florida, and are believed to have been the first who saw the mainland of America. By these and succeeding voyages of discovery in the reigns of Henry VIII., Edward VI., and Elizabeth, the English became possessed of the eastern coast of North America and some of its islands. Between the years 1740 and 1744, Anson was employed in circumnavi-

gating the globe, and visiting different parts of the Pacific, but this extensive and protracted voyage added little to the existing knowledge of geography. At a later period, in the reign of George III., Cook explored the groups of islands in the Pacific, making various interesting discoveries, in which was included a survey of the eastern coasts of Australia and Van Diemen's Land; also, a visit to the New Zealand islands. After the voyages of this enterprising navigator, little was left to perform in the way of maritime discovery, except in exploring the northern extremities of the American continent. A series of voyages for this purpose was begun by the British government in 1818, conducted by Ross, Parry, Franklin, and others, and subsequently by that of the United States, conducted by Wilkes, De Haven, Kane, and others, but which only eventuated in establishing the fact, that a passage for ships exists between the Atlantic and Pacific, round the northern promontories of America, but that, from the blocking of ice, such a passage can only on rare occasions be open to navigators, and is therefore of no practical value.

FIRST MILITARY AND NAVAL EXPEDITIONS.

Herodotus states that Rameses Miamoun (who lived from 1388 to 1322 B. C.) undertook distant expeditions, having penetrated into Ethiopia through Palestinian Syria, and crossed from Asia Minor to Europe, through the lands of the Scythians and Thracians, to Colchis and the River Phasis, where those of his soldiers who were weary of their wanderings, remained as settlers. According to the priests, he was the first "who, by means of his long ships, subjected to his dominion the people who inhabited the coasts of the Erythrean Sea." After this achievement, he continued

his course till he came to a sea which was not navigable, owing to its shallowness. Whether he penetrated as far as Persia and Western India—as Western Asia did not then contain any great empire, (the building of Assyrian Nineveh is placed only 1230 B. C.)—is a question that will undoubtedly soon be settled from the rapidly advancing discoveries now made in archaeology and phonetic languages. The only certain fact with reference to Egyptian navigation is, that from the earliest ages not only the Nile, but the Arabian Gulf was navigated. The celebrated copper mines near Wadi-Magahi, on the peninsula of Senai, were worked as early as the fourth dynasty, under Cheops-Chufu. The sculptural inscriptions of Hamamat on the Cossier road, which connected the Valley of the Nile with the western coasts of the Red Sea, go back as far as the sixth dynasty. Attempts were made under Rameses the Great to form the canal from Suez, probably for the purpose of facilitating intercourse with the land of the Arabian copper mines. More considerable maritime expeditions—as, for instance, the frequently-contested navigation of Africa under Necho or Neku II. (611–595 B. C.)—were confided to Phœnician vessels. About the same period, or a little earlier, under Necho's father (Psammitich), and somewhat later, after the termination of the civil war under Amasis, Greek mercenaries, by their settlement at Naucratis, laid the foundation of a permanent foreign commerce, and, by the admission of new elements, opened the way for the gradual penetration of Hellenism into Lower Egypt.

CIRCUMNAVIGATION OF AFRICA.

To perform the circuit of the coast of Africa was as great an object of ancient maritime enter-

prise, as the discovery of a "North-west Passage" continues to be in our own times; and the first attempt at its accomplishment originated in a quarter long accustomed to keep aloof from such undertakings. It appears that Necho, after having raised the military glory of Egypt to its greatest height, was ambitious of extending its fame in every direction; but not possessing fit instruments among his own subjects, he engaged some Phœnician navigators to "descend the Red Sea, and endeavor to find their way back to the Mediterranean by the Pillars of Hercules." The authenticity of the following narrative of this expedition, taken from Herodotus, has been in a remarkable degree the subject of learned curiosity, and has produced a greater mass of controversy, perhaps, than would be deemed possible from its short and vague nature:

"The Phœnicians, setting sail from the Red Sea, made their way into the Southern Sea. When autumn approached, they drew their vessels to land, sowed a crop, and waited till it was grown, when they reaped it, and again put to sea. Having spent two years in this manner, in the third year they reached the Pillars of Hercules, and returned to Egypt—reporting what does not find belief with me, but may, perhaps, with some other person: for they say that, in passing Africa, they had the sun on their right hand—*i. e.* the north. In this manner Lybia was first known."

EXPLORING EXPEDITION OF HANNO.

Hanno, a Carthaginian navigator, was the first who undertook an exploration of the western coast of Africa. He had held the office of suffetes, or supreme magistrate at Carthage, and he is said by Pliny to have embarked on the voyage when Carthage was in a most flourishing condition.

Hence it has been inferred that he was the same individual (the father or son of Hamilcar) who was killed at Himera, B. C. 480, but this is quite uncertain. The description of a very lofty mountain with fire on its summit, which seemed to reach the stars, and which was named "Theon Ochema," or the chariot of the gods," applies exactly to the lofty peak of Camerocus, in the Gulf of Guinea, and it is very possible was the limit of the expedition. On returning from his voyage, Hanno dedicated an account of it, inscribed on a tablet in the temple of Saturn (Cronos), and it is therefore presumed that the peripplus is a Greek version of the contents of that Punic tablet. As this celebrated document is short, we give a complete translation, as follows :

"It pleased the Carthaginians that Hanno should sail beyond the Pillars of Hercules, and should found cities of the Liby-Phœnicians. He set sail, therefore, with a fleet of sixty vessels, each of which was impelled by fifty oars. They carried with them men and women to the number of thirty thousand, with provisions and supplies of various kinds. We sailed two days beyond the straits, and founded a city overlooking an ample plain, and which we called Thymiaterium. Thence we proceeded westward to Soloe, a promontory of Libya, thickly shaded with trees, where we founded a temple to Neptune ; then turning eastward for half a day's sail, we came into a lake not far from the sea, overgrown with numerous and high reeds, and on whose banks elephants and a number of wild animals were feeding. Having passed this lake in the course of a day's sail, we founded cities on the sea-coast, Caricum-Tiechos, Gytte, Acra, Melissa, and Arambys. Then setting sail, we made our way to the great river Lixus, which flows from Libya. On its banks the

Lixitæ, a pastoral race, fed their flocks ; with whom we formed ties of friendship, and spent a short interval. The country above them was inhabited by inhospitable Ethiopians, filled with wild beasts, and traversed by very high mountains, whence the Lixus is said to descend ; and it was added, that these mountains were inhabited by men dwelling in caves, of a strange appearance, who outran even horses in the chase. Having received interpreters from the Lixitæ, we proceeded along a desert coast till the middle of the second day ; when we sailed one day to the eastward, and in the recess of a little bay found a small island, five stadia in circuit. We left inhabitants there, and named it Cerne. This island, on taking an account of our course, we conjectured to be opposite to Carthage ; for the navigation from Carthage to the Pillars, and from the Pillars to Cerne, correspond. Then we came to a lake through which flows a great river called Chretes. That lake contained three islands greater than Cerne ; by these, in the course of a day's navigation, we reached the interior shore of the lake, where very great mountains impended over it, inhabited by a rough people, dressed in skins of wild beasts, who by throwing stones repelled us, and prevented us from landing. We then sailed into another river, large and broad, full of crocodiles and river horses. We then returned to Cerne. From Cerne, renewing our course to the south, we passed for twelve days along a shore, the whole of which was in the possession of the Ethiopians, who showed a trembling dread of our aspect, and spoke a language unknown to our Lexite interpreters. On the last day, we came to high mountains, covered with trees, the wood of which was odoriferous, and variously tinted. Passing round these mountains by a navigation of two days, we came

to an immense opening of the sea, bordered by plains in which we saw fires of different magnitude glittering at intervals from every spot. Having watered there, we proceeded five days along the shore, till we came to an immense bay, which the interpreters called the Western Horn. In it was a large island, and in that island a salt-water lake, in which again there was another island. Entering this lake, we saw in the day nothing but forest; but in the night there were many fires burning; and we heard various sounds of musical instruments, and the cries of numberless human beings. Being terrified by these objects, and the prophets also exhorting us to quit the island, we made off, and reached next the fiery region of Thymiamata, whence torrents of flame poured down into the sea. Here the heat of the earth was such, that the foot could not tread upon it. We therefore took our speedy departure from this place, and after four days' further sail, saw the earth in the night full of flames. There appeared also in the midst of them one lofty fire greater than the rest, which seemed to reach to the very stars; this, when seen by daylight, proved to be a very lofty mountain, called the chariot of the gods. Thence by a navigation of three days, having passed these fiery torrents, we came upon another bay, called the Southern Horn. In its inmost recess was an island similar to that formerly described, which contained in like manner a lake with another island, inhabited by a rude description of people. The females were much more numerous than the males, and had rough skins; our interpreters called them *Gorilla*. We pursued but could take none of the males; they all escaped to the top of precipices, which they mounted with ease, and threw down stones; we took three of the females, but they made such vio-

lent struggles, biting and tearing their captors, that we killed them, and stripped off the skins, which we carried to Carthage: being out of provisions, we could go no further."

Such is the entire narrative of this most celebrated of the ancient voyages; but it would be impossible to comprise within the same limits even a sketch of the commentaries to which it has given rise among the learned.

EXPLORING EXPEDITION OF NEARCHUS.

Next in consequence—if not the first—among the earliest navigators, we may place Nearchus, a distinguished friend of Alexander the Great, who was a native of Crete, but settled at Amphipolis. He accompanied the Macedonian expedition to Asia, and was made commander of the fleet which Alexander had caused to be constructed on the Hydaspes. Upon reaching the Indus, it was resolved to send round the ships by sea from thence to the Persian Gulf; and when Alexander expressed a desire to have the lower course of the Indus explored, and afterwards the southern coasts of Asia, (a long range, wholly unknown to the Greeks,) the dreary prospects of the undertaking were such as to intimidate the most enterprising of his naval officers. Various excuses were offered by subordinates, and the idea of reaching the destined station of the army on the banks of the Euphrates by this long circuit, was about being relinquished, when Admiral Nearchus proffered his own services, which Alexander at length reluctantly accepted, being unwilling to peril the life of his intimate friend in what was regarded as so dangerous a task. After the usual antique preparation of sacrifice and games, Nearchus (Sept. 21, 326, B. C.) began his arduous voyage, which was checked at the mouth of the river by a

formidable obstacle—an immense rock, completely barring the passage, and against which the waves broke with great fury. This was finally surmounted by cutting a canal across the softest part, through which the vessels were able to pass at full tide. He then passed the sandy island of Krokali (Corachie), and Mount Eirus (Cape Monze), when, being now in the open ocean, a series of gales began, so heavy and continued, as obliged him to seek the shelter of an excellent harbor formed by an island called Bibacta. The crews here landed, threw up an entrenchment to defend themselves against the natives, and remained for 23 days, subsisting chiefly on shell-fish. The wind having abated, they set sail, and came to a coast where water, of which they appear to have needed almost daily supplies, was only to be got by going several miles up into the country. They then passed between a range of rocks, so close to each other, that the oars struck against them on each side. After sailing a considerable space, partly in a narrow channel between a wooded island and the shore, they came to the river Arabius (the modern Poora-lee). It gave name to a numerous people, inhabiting all the territory between this river and the Indus. On the other side was the coast of the Oritæ. In proceeding, however, Nearchus met with a dreadful tempest, in which three of his vessels perished, though the crews were saved by swimming, and he with difficulty brought his shattered vessels to the coast. Here he found Leonatus, whom Alexander had detached to open a communication with him, which he obtained only by very hard fighting. Nearchus here spent some time in refitting his shattered vessels, and exchanged those of his crew who had proved themselves less efficient, for fresh men out of the Greek army. Having laid in corn for ten days, they

sailed with a prosperous wind, and reached the rapid stream of Tomerus (the modern Wudd). Here the natives, six hundred strong, were drawn up to oppose their landing—a barbarous race, armed with lances six cubits long, pointed with wood hardened in the fire. Nearchus caused a band of his light troops to swim on shore, and to make no movement till they were drawn up in a triple line, then suddenly to raise a general shout, and pour in clouds of darts and missiles. This sudden attack, their shouts, and the glitter of their armor, produced instant and total rout on the part of the natives. They are described as presenting an aspect almost incredibly savage, being covered in a great measure with hair, and having long nails like the claws of wild beasts. Their dress consisted in the skins of animals and of large fishes.

The expedition now steering out to sea, and taking a southerly course, observed phenomena, belonging to the midsummer of the tropic, the novelty of which struck them with surprise. When the sun was in the meridian, no shadow was projected, and when there came to be a little shadow, it declined to the southward. Stars, which were wont to be seen high in the heavens, were now little above the horizon. At Bagaziri (Cape Arrubah) they left the coast of the Oritæ, and entered that of the Ichthyophagi, or fish-eaters, a food which is said to have so remarkably abounded, that even the flesh of the cattle savored of fish, from their making it, like sea-birds, their daily food. The people were hospitable, but could give only fishes and goats. It was not till the Greeks had sailed a considerable distance that at Barna they found some palms, gardens, and verdure. After passing Cophantæ (Guadel), where they obtained a supply of fine water, and Cyzia (Gwutter) on a desert and rocky shore, they came to a small

town on a hill a little inland (probably Churbar), where it appeared probable that a supply of grain might be obtained. To possess himself of this, Nearchus had recourse to measures that harmonized much more with the character of a buccaneering freebooter, than with that of an officer of the first prince in the world. The people met him in the most kindly manner, and presented to him roasted fish and other victuals. Meeting their friendly advances, he expressed a wish to visit their city, and being cordially admitted, his first step was to take military occupation of it, and to command the natives to lay open to him all their stores of grain. The poor citizens at first flew to arms, but having no means of effectual resistance, they were obliged to yield. It proved, however, that they had little except dried fish reduced to powder, and Nearchus could get only a very small stock of grain. In sailing now along an almost desert coast, the stock of provisions became excessively scanty; and they obtained only a poor supply by landing, and cutting off the leaves of wild palm-trees. The pressure became so extreme, and was so impatiently borne by the crews, that Nearchus did not think it safe to land at night, lest they should all take flight into the interior. In one place he found a paltry village, all the inhabitants of which fled; but the Greeks found seven camels, which they killed and eagerly devoured. The same distress continued to press upon them so long as they sailed along the coast of the "fish-eaters." Notwithstanding this name, few of them were fishers, or had even boats: they procured this food by immense nets, sometimes a quarter of a mile long, formed out of the fibrous bark of the palm-tree. These they placed at high tide across the mouth of little bays, so that when the waters receded, the nets, retained all the fish

which had been carried up with the tide. The houses of the rich were built with the bones of whales cast ashore; those of the poor, with the back-bones of smaller fishes. Nearchus descried a number of whales, whose presence was at first made sensible only by the quantity of water thrown up into the air, and tossed as in a whirlpool, a spectacle which struck the sailors with terror, and made the oars drop from their hands. The commander, however, on being informed of the cause, made his crews raise the loudest possible sound by shouts, trumpets, and dashing of oars, which at once kept up their spirits, and was supposed to induce these monsters of the deep to replunge into their abysses.

The coast of Caramania was next reached by Nearchus, after passing the fabulous abode of a Persian Circe, who, according to report, was accustomed to seduce the navigator by voluptuous pleasures, and then convert him into a fish. Nearchus now found his distresses nearly at an end, as the soil was tolerably productive in grain and fruits, and there was plenty of good water. After passing capes Jask and Bombareek, they came in view of a huge promontory, stretching far into the sea, called Cape Maceta (Mussendoon), and forming the entrance of the Persian Gulf. The great body of the sailors, and even Onesicrotus, an officer high in command, weary of this long navigation, earnestly proposed to land, and march on foot to Babylon. Nearchus justly and strongly insisted that this was in no degree to fulfil the intention of Alexander, whose injunction it was to survey every coast, every harbor, and every bay, between India and Euphrates; and that, besides, they incurred great hazard of being involved in those arid and burning deserts, of which Arabia in a great measure consists. This wise opinion pre-

veiled, and in ascending the Persian Gulf they found, for the most part, a fertile and beautiful coast. In the delightful country at the mouth of the River Anamis (the modern Minab), they landed, and began to refresh themselves after so many hardships. Nay, a party having proceeded to some distance into the interior, met, with tears of surprise and joy, a man in a Greek dress, and speaking the Greek language. This proved to be a soldier who had straggled from the army of Alexander, which he reported to be at a distance of only five days' journey. On receiving this intelligence, Nearchus caused the ships to be drawn on shore, a rampart to be formed around them, and the crews to take rest and refreshment, while he and Archias set out alone for the camp. On their arrival, they presented an aspect so haggard, pale, and squalid, that the persons they met did not know them, but on being told their name, hastened to carry the first tidings to Alexander. They added (a hasty conclusion formed from appearances) that the fleet and the army had perished. Alexander received Nearchus with kindness, mingled with sorrow, and after the first salutations, began to ask particulars of the catastrophe of his favorite armaments; but when Nearchus replied, "O king! thy ships and men are safe," the conqueror burst into a flood of tears, and swore by Jupiter Ammon that he derived more pleasure from this event than from the entire conquest of Asia.

The rest of the navigation of Nearchus, when he had with some difficulty regained the fleet, was easy, care being taken that he should find on the coast every kind of supply. They passed the barren and desert rock of Organa, afterwards so celebrated under the name of Ormuz, the large and fertile Oaracta (the modern Kishme). Soon after they quitted the coast of Oaramania, and entered

that of Persia proper (the modern Fars), which they followed till its termination at the river Aro-sis (the modern Indian Tab), which appeared to them the largest they had seen since they had left the Indus. They were now in Susiana, and soon reached the mouth of the Tigris, where the voyage of Nearchus terminated.

He was rewarded with a crown of gold for his distinguished services, and at the same time obtained in marriage a daughter of the Rhodian Mentor and of Barsine, to whom Alexander himself had been previously married. In the division of the provinces after Alexander's death, he received the government of Lycia and Pamphylia, which he held as subordinate to Antigonus, whom he accompanied (317) in his march against Eumenes, and he is again mentioned in 314 as one of his generals. The latter part of Arrian's "Indica" is derived from an account of his voyage left by Nearchus.

The circumnavigation of Arabia, and the opening of a communication between the Red Sea and the Persian Gulf, formed to Alexander an object of almost equal ambition. He accordingly appears to have sent expeditions down both seas, in the hope of accomplishing this object. Those, however, who went from Persia were never able to double that formidable promontory (the Muscudoon) which Nearchus had passed at the entrance of the gulf; while those who went from Egypt, after making a certain progress, were always obliged to return for want of water.

EXPLORATIONS OF EUDOXUS.

As in our own day, so in ancient times, the ambition to achieve some notable discovery was not confined to states or princes; but even private adventurers, thirsting for distinction, or hoping

probably to combine with it opportunities for lucrative commerce, were occasionally found in the list of explorers. Prominent among this last class was Eudoxus, whose singular story, however, is discredited by Strabo, although we cannot discover in it any thing unworthy of the general belief with which it was received. As we learn from the *Narratives* of Strabo, he was a native of Cyzicus, sent on a mission to Alexandria, then the great seat of maritime enterprise and geographical knowledge. His ardent mind was strongly imbued with the spirit which reigned there; and he offered himself to Ptolemy Evergetes, as a zealous instrument to be employed in any expedition having these objects in view. There was, at first, some talk of ascending the Nile, and endeavoring to reach its unknown sources; but their views received a new direction from the arrival of a person who was, or professed to be, a native of India, who escaped alone from the wreck of his vessel near the foot of the Arabian Gulf. Ptolemy immediately fitted out a naval armament, with which Eudoxus proceeded on his destination. He appears to have made a prosperous voyage, and to have returned with a cargo of aromatics and precious stones, which last had either been washed down by the rivers, or dug out in a concrete state. Of this wealth, Evergetes appears to have plundered him; which Strabo insinuates was in resentment of some dishonest conduct on his own part. However, Evergetes dying, his widow Cleopatra took Eudoxus again into favor, and sent him on a fresh voyage. He was now driven by unfavorable winds to the coast of Ethiopia, where he was well received by the inhabitants, and carried on some advantageous trade. His return to Alexandria was again unfortunate; for Cleopatra was dead, and her son, who

succeeded, treated him as ill as Evergetes had done. He brought with him one trophy from the extremity of his voyage—the prow of a vessel, said to have come from the westward as a portion of a wreck, and on which was sculptured the figure of a horse. This prow being exhibited on the harbor, some mariners from Cadiz declared it to be the very form peculiar to a species of large vessel which went from that port for purposes partly of trade, and partly of fishing, to the coast of Mauritania. Eudoxus listened with enthusiastic credulity, and determined now to renounce the deceitful patronage of courts, and to fit out a new expedition from the commercial city of Cadiz. He proceeded thither by way of Massilia and other maritime stations, where he loudly proclaimed his hopes, and invited all who were animated with any spirit of enterprise to accompany him. He succeeded in equipping an expedition on a considerable, and even magnificent scale—having one ship and two large boats, on board of which he carried not only goods and provisions, but artisans, medical men, and even players on musical instruments. A crew so gay, and filled, probably, with extravagant hopes, were ill fitted to encounter the hardships of African discovery. They took fright at the swell of the open sea, through which Eudoxus was anxious to conduct them, and insisted, according to the usual timid system, on being brought near to the shore. This led to the disaster which Eudoxus had foreseen: the ships were stranded, and the cargo with difficulty saved. The most valuable articles were then put on board one vessel of a lighter construction, and he prosecuted the voyage till he came to a race of people who appeared to him to speak the same language with those whom he had met on the opposite shore of the continent. Conceiving him-

self to have thus ascertained the object of his voyage, he returned, and endeavored to procure the barbaric aid of Bocchus, king of Mauritania; but, suspecting that monarch of a treacherous design against him, he again betook himself to Spain, where he succeeded in equipping a fresh expedition, consisting of one large vessel fitted for the open sea, and another of smaller dimensions for exploring the coast.—Here, unfortunately, the narrative breaks off, referring to the Spaniards and Gaditanians, as likely to know more; but as nothing more is stated on any authority, it is probable that this last expedition had an unfortunate issue. Eudoxus cannot be made responsible for the fables which antiquity has put into his mouth: He is represented by some as having actually made the circuit of Africa; by others as having come to one nation that was dumb, and another whose mouth was entirely closed, and which received food through an orifice in the nose. But none of these fables are found in the report of Eudoxus himself.

There are many other devoted and skilful navigators of antiquity whose deeds entitle them to our highest praise, and among them may be mentioned Pytheas, who sailed along the coast of France till he came opposite to that of Britain, when he imagined that "there commenced what was neither sea, earth, nor air, but a confused blending of all the three!"—similar, no doubt, to the substance called *pulmo marinus*, a species of medusa, common on the British shores. He added, that this substance was the basis of the Universe, and that in it air, earth, and sky hung as it were suspended! And of course he naturally concluded that he had "reached that farthest boundary of nature, beyond which it was no longer possible for mortal sail to penetrate."

Arrian, too, a merchant of Alexandria, who thoroughly explored both the western and eastern coast of the Red Sea, the southern coasts of Arabia, the coast of India, "the regions beyond Ganges," and a great portion of the African coast, deserves a high rank among ancient mariners; for his "Periplus of the Erythrean Sea," and the information he gathered, probably from personal observation, early enabled geographers to complete the survey of the great naval routes of the ancient world.

Xerxes, while his sway was established over the eastern coasts of the Mediterranean, evinced some desire for a better acquaintance with Africa, and on one occasion it was manifested in rather a singular manner. It is said that Sataspes, a Persian nobleman, committed an offence for which he was condemned to death, but the monarch consented to remit the penalty on condition that he should accomplish a voyage round that much-dreaded peninsula. Gladly availing himself of the alternative, Sataspes procured a vessel and crew in Egypt, passed the Straits of Gibraltar, and bent his course southward, beating about for several months, until he reached the coasts of Sahara. The dismal prospects of the desolate shores, with the tempestuous ocean dashing against them, had such an appalling effect upon the timid navigator, that he at once measured his course back to the Straits—hoping that his sufferings and the partial accomplishment of his task, would be considered ample atonement for his offence. But he was mistaken, and dearly did he pay for his mistake. When he appeared before Xerxes, and imputed the failure of the expedition to an insurmountable obstacle, that inexorable monarch ordered the original sentence to be immediately executed.

DISCOVERY IN LATER TIMES.

FINDING it difficult to classify in strict chronological and geographical order all the events it is desirable to embrace in connection with this interesting subject, we shall take leave to make such deviations from the beaten track of "METHOD," as will enable us to include the most important incidents, personal and collateral, attendant upon the development of our present knowledge of the world and its principal features.

NORTHMEN IN AMERICA.

Many who consider themselves "pretty well posted" in geographical matters, have grown up under the impression that Columbus was the first European who trod the soil of America; for so taught the schools in their days of youthhood. Comparatively recent revelations have shown this idea to be unfounded, as the country was known for several centuries before the great Genoese saw the light of heaven. It seems, however, to have been afterwards entirely lost sight of, so that his fame is in no degree impaired by being merely the re-discoverer of this vast Continent.

According to Brownell's excellent work, the "Discoverers, Pioneers, and Settlers of North and South America," the wandering bark of a Scandinavian navigator, named Noddadd, first lighted (in 861 A. D.) on the shores of Iceland, till then unknown or lost to Western Europe. Fourteen years afterwards, that island was colonized by Ingolf, a Norwegian, who, with his followers, removed to this yet more desolate and uninviting region, and founded a prosperous settlement.

A century later, one Thorvald and his son, the

famous Eirek the Red, flying from Norway to escape the consequences of a homicide, took refuge in Iceland. Here Thorvald died, and Eirek having killed another man in a quarrel, found it necessary once more to betake himself to the ocean. He fitted out a vessel, and with his adherents set sail in quest of some islands in the western sea, called, from their discoverer, the Rocks of Gunnbjonn. (These islands, from the gradual obstruction of those seas by ice, have now for several centuries been lost to geography.) Sailing westward, he soon fell upon the shores of Greenland (982), and coasting to its southern extremity, fixed his residence at a harbor called, from its discover, Eireksfjord (Eirek's creek). To the whole region which he had discovered he gave the name of Greenland, trusting, by this inviting title to allure settlers to his new colony. He returned to Iceland, and with 25 ships and a large number of colonists, in 985 set sail for his residence. Only 11 of these vessels reached their destination, the remainder being lost or driven back to Iceland. The bold and enterprising genius of these hardy mariners may be conjectured from the fact that, within two centuries after their establishment, they had made extensive discoveries and surveys in the icy recesses of the Polar Sea. Their monuments and inscriptions have been found as far N. as latitude 73°, and it is related that they explored Baffin's Bay, and even Wellington's Channel.

With Eirek went one Heriulf, a man of authority, who had a son named Biarni, a youth of great courage and enterprise. This son was absent in Norway at the time of their departure, and on his return to Iceland, finding that his father had

sailed for the newly-discovered land, was greatly troubled in his mind, and refused to disembark, alleging that he was determined to spend the winter with his father, as heretofore. Accordingly, with his mariners, he again set sail on the bold and hazardous enterprise of finding the little Icelandic settlement on the vast, desolate, and unexplored coasts of Greenland. Hardly was the land out of sight when a strong N. E. wind arose, accompanied with heavy fogs, and for many days he was compelled to scud before it, unable to bear up for the desired coast. At last, the fog cleared off, and after sailing for another day, land appeared to the westward. It was not mountainous, but woody, with some rising ground—probably Long Island, Nantucket, or Cape Cod.

The ship was now put about, and leaving the land on their left, they steered northerly for two days, with a favorable wind. They then came upon a land low and level, and overgrown with woods—probably Cape Sable, Nova Scotia. The sailors asked Biarni Heriulfson if this was the expected country. He answered—"No, for they told me that there are great mountains of ice in Greenland." Refusing to land here, despite the complaints of the mariners, he sailed on for three days longer with a S. W. wind, and found a great island, high, mountainous, and covered with ice—probably Newfoundland. The aspect of the place was too forbidding to invite a landing, and for four days, with a furious wind from the S. W., the adventurous keel sped northerly. At the end of this time, by a rare piece of good fortune, Biarni came upon the very promontory (Heriulfness), in Greenland, where his father had fixed his residence (985.)

About the year 995, Biarni Heriulfson made a visit to Norway, where the account of his singular

voyage excited great interest. Four years afterwards, Leif, the eldest son of Eirek the Red, also went to that country on a visit to the king, Olaf Tryggvason. During this visit he heard much of the adventures of Biarni, who was much blamed for having neglected to explore the country. His emulation was excited, and he determined to prosecute the discovery. He accordingly sailed in the year 1000, and soon came in sight of the mountainous and dreary country last seen by Biarni, which he named *Hellu-land*, signifying the land of broad stones. From the descriptions which follow, there is no doubt that during this voyage he visited Nova Scotia, Nantucket, and Mount Hope Bays, and various portions of New England, which he named Vinland; and probably Martha's Vineyard and Vineyard Sound are indebted to these hardy mariners for their names—grapes having been afterwards found in great profusion in this vicinity.

Having freighted his ship with timber, he returned to Greenland in the spring of 1001; and his account of the countries he had seen soon had the effect of inducing other adventurers to follow his track, and expeditions succeeded each other in rapid succession. Thorfinn, an Icelander, sur-named *Karlæfni* (the Achiever), sailed for Greenland, in 1006, with two ships; and there hearing of the wonderful discoveries which had been made, he fitted out an expedition, furnished with live stock and other necessities, for forming a settlement. After touching at various points, he reached *Hellu-land*, which he explored for a considerable distance, and where he passed the winter. He remained in this region until 1010, when he returned to Greenland, having abandoned his project of colonization.

In the year 1285, two brothers Adalbrand and

Thorvald, whose names are well known in Icelandic history, accidentally touched upon a place which, from the situation and description, could be no other than the *Hellu-land* of the Greenlanders; and the name which they bestowed on it, *Nyja fundu Land* (Newfoundland), sufficiently indicated that this was considered but the rediscovery of a land formerly known. Eirek, the king of Norway, was interested in the account of this voyage, and in 1288 sent out one Rolf expressly to explore the country. The particulars of his expedition have not survived, but it is supposed that he made extensive explorations.

It is evident from several ancient manuscripts that considerable intercourse was kept up with this region, both by Iceland and Greenland, as late as 1347; and it is inferred that its discontinuance was owing to the colony of Greenland, after a prosperous existence of 400 years, being finally shut off from Europe by that vast and extending barrier of ice which, with the increasing coldness of the seasons, advanced southward from the pole. "There is," says Mr. J. T. Smith, "a remarkable obscurity—it may be termed mystery—hanging over the fate of the colony in Greenland. The last bishop was appointed in 1406. *Since that time the colony has never been heard of.* When the colony was last heard of, in the 15th century, it consisted of 280 villages. * * Certain it is, that while extensive ruins have been found all along the line of the ancient settlements, no living traces of the colony itself have ever been discovered." For more than three centuries, these desolate shores were hardly visited by a keel, except that of the adventurous whaler. In 1721, colonies were again planted there, by Denmark, and the region has since received some degree of attention.

When Iceland was first settled by the Northmen, a small colony of Christians, who are supposed to have come from Ireland, was found there. The intercourse between these two islands became frequent, and it would not be unlikely that in voyages of such length, through tempestuous seas, a bark should occasionally be driven to the coasts of America. That such was the case, appears probable from several ancient Norse records, all treating of persons historically known to have existed. In an old geographical work, the following concise and explicit description occurs:

"To the south of habitable Greenland there are uninhabited and wild tracts, and enormous icebergs. The country of the Skroellings lies beyond these: Markland beyond this, and Vinland the Good beyond the last. Next to this, and something beyond it, lies Albania, that is Huitramannaland, whither, formerly, vessels came from Ireland. There several Irishmen and Icelanders saw and recognized Ari, the son of Mar and Kotlu of Reykianess, concerning whom nothing had been heard for a long time, and who had been made their chief by the inhabitants of the land." This Ari Marson is elsewhere described as having been driven in a tempest (983) to the region called Huitramannaland (white man's land), or Irland it Mikla (Ireland the Great), which lay far to the west of Ireland, and may perhaps have been the southern or middle states of America.

Another and most romantic and interesting story is that of Biorn Asbrandson, an Icelandic champion of great fame and courage, distinguished for his achievements in Denmark and Pomerania. Returning to his native country, he was involved in an unfortunate attachment to Thurid, the wife

of one of the chief men in his neighborhood. In the frays occasioned by the jealousy of the latter, Biorn killed several men, and found it necessary to quit the island. He set sail about the year 998, "with a N. E. wind, which prevailed for a great part of that summer. Of the fate of that ship nothing was for a long time heard." The narrative of "Gudleif Gudlaugson" furnishes a singular sequel to his adventurous career. About the year 1030 this Gudleif, who was a noted merchant and sea-warrior, had made a voyage to Dublin. "On his return to Iceland," says the narrative, "he fell in with N. E. and E. winds and was driven far into the ocean, towards the S. W. and W. so that no land was seen, the summer being now far spent. Many prayers were offered by Gudleif and his men that they might escape their perils, and at length they saw land. It was of great extent, and they knew not what land it was."

On landing, they were seized by the inhabitants, and carried to a great assembly, where their fate was to be decided. They were rescued, however, by an aged man, to whom all present paid the greatest deference. This man addressed them in the Norse tongue, and made many inquiries concerning the people of Ireland, and especially concerning Thurid, to whom he sent a golden ring as a token. He likewise delivered to Gudleif an excellent sword for her son Kiartan, (of whom Biorn had been commonly reputed the father). He refused to tell his name, saying that he wished none of his relatives or friends should come to such a dangerous coast, and advised the immediate departure of his guests.

They sailed, and in the course of the autumn reached Ireland, whence, in the spring, they proceeded to Iceland. The ring was delivered to

Thurid, and all concluded that the giver could be no other than the long-lost Biorn Asbrandson. The region where he dwelt, judging from the course of the vessel, may have been Georgia or the Carolinas; and the description of the coast given by Gudleif strikingly corresponds to the shores of that portion of America.

CHRISTOPHER COLUMBUS.

Almost as many cities have claimed to be the birthplace of this immortal discoverer as strove for the honor of having first cradled the great poet of antiquity; but it is now pretty generally conceded that he first saw the light in Genoa, about 1435—being born of poor, but respectable parents. The Italian name of his family is Colombo—a name which (according to the custom of the time) he Latinized into Columbus, and which, on his adoption into Spain, he changed into Colon, according to the language of that country. At an early age he acquired considerable skill in arithmetic, drawing and painting, and for a brief time enjoyed the advantages of education at Pavia, then one of the most reputed seats of learning in Europe. His education, like that of many of the Genoese youth, was principally of a maritime tendency. "Hee beganne of a chylde to be a maryner," says one, and to the rude geometry, geography, and astronomy which, during a brief period, he acquired at this celebrated school, the world is probably indebted for the most momentous of discoveries. These studies, however, were soon interrupted. At the age of fourteen, the young adventurer, like great numbers of the youth of his city, went to sea, and for many years pursued an obscure though active and perilous career in the commerce and wars of the Mediterranean.

In 1470, when the noble fever for adventure

and geographical discovery was slowly attaining its height, Columbus arrived on the shores of Portugal. Soon after his arrival, he was married to the daughter of Palestrello, a distinguished navigator in the service of Prince Henry, and once Governor of Porto Santo. The widow of this mariner, with whom Columbus and his wife resided, gave him the charts, journals, and other sea-faring relics of her husband. He was for the most part in straitened circumstances, and procured a living by making maps and charts, no mean accomplishment at a time when the zeal for geography was highly excited. His skill in this accomplishment soon procured him consideration among the most scientific men of the time. Alike hampered and encouraged by a vast mass of fanciful conjecture and imaginative tradition, his ardent and practical mind was slowly forcing its way to a fixed theory and an immutable purpose. He was a firm believer in the sphericity of the earth, but from the want of geometrical data, supposed it much smaller than the reality. As early as 1474 he was in correspondence with Toscanelli, an eminent learned Florentine, who applauded his intention of sailing westward, and who considered the distance from Portugal to India, by a western route, to be only 4,000 miles. The opinions of the ancient Greek and Roman geographers strengthened this conclusion, and the wonderful narrative of Marco Polo, describing the vast extent of the Orient, convinced him still further of his proximity to the western shores of Europe. Moreover, the Portuguese voyagers and colonists of the islands had occasionally seen the evidences of other lands in objects drifted from the westward—huge reeds and pine trees, pieces of carved wood, and bodies of men of a race unknown to Europe.

From the time when the project of sailing westward to solve the grand problem of the earth first entered the mind of this obscure wanderer, there commenced a career of patience, perseverance, sagacity, and courage, such as the world, it is probable, had never before witnessed. Though mistaken in the particulars of his geographical plan, he would seem from the first to have had a certain premonition of the vastness and real grandeur of his future discovery.

John II., who, in the year 1481, assumed the crown of Portugal, had imbibed from his grand uncle, Prince Henry, the generous passion for discovery and colonization. Columbus obtained an audience before the sovereign, and unfolded his grand scheme, as assuring the most direct and the quickest route to the shores of India—at that time the main object of Portuguese enterprise. He proposed to sail due westward, and supposed that he should first light upon the island of Cipango, or Japan, of which Marco Polo, from hearsay, had given a glowing and exaggerated account. The terms which he demanded for making the proposed discovery were of a princely nature, probably the same which he afterwards obtained of the Spanish sovereigns. There is something singular in the confidence and pertinacity with which he adhered to these magnificent demands. "He conferred with sovereigns almost with a feeling of equality. His views were princely and unbounded; his proposed discovery was of empires; nor would he ever, even after long delays, repeated disappointments, and under the pressure of actual penury, abate what appeared to be extravagant demands for a mere possible discovery."

The learned men to whom John referred the project treated it as vain and chimerical. The king, unsatisfied, summoned his council, by whom

it was in turn condemned. Still uneasy, he listened too willingly to a perfidious stratagem, suggested, it is said, by his confessor, the Bishop of Ceuta. Columbus was invited to furnish the council with all his plans and charts, for the purpose of examination. The requisite information thus obtained, John, with incredible meanness, dispatched a vessel on the proposed track, thus hoping to gain the magnificent prize, and to defraud the inventor of his reward. But the heroic zeal, patience, and energy of its projector were wanting to the venturesome expedition. The weather was stormy, and the crew, discouraged, put back to Lisbon. Justly indignant at this unworthy attempt to rob him of the fruits of his enterprise, Columbus, in 1484, resolved to leave the country. His wife was dead, and, rejecting a fresh attempt at negotiation by the king, he secretly quitted Portugal, taking with him his little son, Diego, and determined to submit his project to the Spanish court. At first, he could not even obtain an audience. The sovereigns (Ferdinand and Isabella) were engrossed with military preparation, and his attempt seemed almost hopeless.

The intercession of the Archbishop of Toledo finally procured Columbus the desired audience. He appeared before the sovereigns with great modesty, yet with self-possession, and so engaged their interest that a grand commission was appointed to decide upon his claims at the university of Salamanca.

At this famous seat of learning, therefore, was assembled a council of the most learned and distinguished scholars in the kingdom. Like nearly all professors of learning at the time, they were for the most part, friars and prelates of the church, and perhaps more competent to detect the smallest flaw of heresy than to behold a new world, though

placed directly under their eyes. Before this erudite and dignified body the projector presented himself with that modest and manly confidence which always distinguished his interviews with the great and influential. He stated his scheme, with the grounds on which it rested, in the most simple and forcible manner. To his great disappointment, a large proportion of his scientific hearers "entrenched themselves behind one dogged position : that after so many profound philosophers and cosmographers had been studying the form of the world, and so many able navigators had been sailing about it for several thousand years, it was great presumption in an ordinary man to suppose that there remained such a vast discovery for him to make." His arguments and his eloquence convinced the most learned and rational of the assembly ; but such was the bigotry and obstinacy by which the greater portion of his judges were possessed, that he could gain no favorable report at their hands. Several conferences took place, but comparatively few of the council would risk committing themselves by a decision in favor of such an unheard-of novelty.

* * * * *

Eighteen years had now elapsed since the grand project had possessed his mind. In those years what poverty, disappointment, and weary protraction of court attendance had been his lot ! Seven years had been wasted at the Spanish court, and he was now growing old. Still undisheartened, the indefatigable projector set off to carry his proposal and fortunes to the court of France. Great was the grief and mortification of the friends of discovery at this untoward result. They waited on the queen, and with generous eloquence besought her not to suffer an enterprise of so much moment to the glory of the nation and the exten-

sion of Christianity to escape from her hands. Isabella was moved; but how were the requisite funds for such an undertaking to be drawn from treasuries exhausted by long and expensive warfare? The difficulty was but momentary. With a queenly and generous enthusiasm, she exclaimed, "I will undertake the enterprise for my own crown of Castile, and will pledge my private jewels to raise the necessary funds." A messenger was instantly dispatched to recall Columbus. He had only journeyed a few miles; the courier soon overtook him, and after a brief interval of delay and hesitation at again committing himself to the mercies of the court, he turned his mule, and took the way back to Granada.

By the beginning of August three small caravels were ready for sea. One only was provided with a deck, the others being open vessels, with only a cabin at the stern, and a forecastle at the bow. In the first and largest, called the *Santa Maria*, Columbus hoisted his flag; the second, the *Pinta*, was commanded by Alonzo Pinzon; and the third, a little bark called the *Nina*, by his brother Vicente. In these frail and perilous craft were crowded 120 persons. The admiral was provided with letters from the sovereigns, addressed to that mysterious potentate, the Grand Khan, whose territories, it was supposed, he would first light on, and whose conversion with that of his people was the first ostensible object of the expedition. On Friday, the 3d of August, 1492, at 8 A. M., this little fleet set sail from Palos, on the most daring enterprise ever undertaken by the genius or audacity of man.

By the 13th he had sailed 200 leagues, and now for the first time observed the mysterious variation of the needle. The alarm which was excited by this threatened failure of their only guide, he al-

layed by a plausible explanation. With a favorable wind the ships made great headway, and on the following day the voyagers were cheered with pleasing, though fallacious promises of land. They were now in the trade-winds, and for many days fled steadily before them without even starting a sheet. The admiral thought he might be passing between unseen islands, but resolutely adhered to his plan of steering steadfastly to the west. His followers, however, became more anxious and excited with every tranquil day, and its many leagues of onward though imperceptible progress. In these mysterious seas, the wind, they feared, was always blowing from the east, and would never permit them to regain their homes. When this alarm was dispelled by a slight shift of wind, fresh terror beset them. The sea, to its whole horizon, was covered with weeds, through whose thick and matted masses the vessels slowly made their way. They might be imbedded in these treacherous meadows of the sea, and their vessels rot away in the lifeless calm, without the possibility of succor. Or beneath them might lie concealed fatal rocks and shoals, the relics of a submerged continent, like the ancient, drowned Atlantis. The situation of Columbus was daily growing more perilous. The mutinous spirit of his crew, developed by alarm, began to show itself more and more openly against the envied foreigner, who, for his own advancement, was thus leading them on to perish in the unknown wilderness of waters. A project was even formed for throwing him into the sea, and on their return, alleging that he had accidentally fallen overboard while contemplating the stars. Though aware of his critical position, the admiral maintained a calm and steady demeanor, conciliating his crews with persuasive arguments, and awing with open threats the more refractory.

At length, at about 2 o'clock on the morning of the 12th of October, the *Pinta*, which, from her superior sailing, took the lead, fired a gun as an indication of land, and the little squadron lay to, eagerly awaiting the dawn of day. As the light slowly broke over this newly-discovered world, a green and beautiful island was seen stretching before the delighted eyes of the voyagers. Numbers of people, perfectly naked, were seen running along the shore, and apparently filled with amazement. The admiral, richly attired, and bearing the royal standard, entered his boat, and, accompanied by the principal persons of the expedition, rowed to the shore. Landing, he kissed the earth, and with tears of joy returned thanks to God. With solemn ceremonies, he took possession of the island in the name of the two sovereigns, bestowing on it the name of San Salvador. It was called by the natives Guanabani, and is one of that great cluster of the Bahamas, which thickly studs the sea from Florida to Hispaniola.

The simple islanders had watched with fearful anxiety the winged monsters which the morning had revealed hovering on their shores. On the approach of the strangers, glittering in armor and gorgeous raiment, they fled to the woods. Perceiving no attempt to injure them, they ventured forth, and approached the Spaniards with frequent prostrations and signs of adoration. They supposed that these marvellous beings, with their floating habitations, had come from the heavens, and examined, with wondering curiosity, their beards and the whiteness of their complexion. These natives, the first of their race seen by European eyes, were beardless, of a copper hue, and adorned with a variety of fantastic paintings. Their hair, unlike that of the African races, was straight, and their features, when unobscured by

paint, were agreeable. Their disposition appeared eminently childlike, simple, and affectionate.

Supposing himself near the eastern extremity of Asia, Columbus described these people under the name of Indians—a name which has since been applied to all the native races of the western hemisphere. The avarice of the discoverers was speedily excited by the sight of small ornaments of gold, which the natives wore in their noses, and which they readily exchanged for European trifles. This metal, as they informed the admiral by signs, was procured from the south-west; and he understood them to describe a prince of great wealth, who was served on vessels of the same precious substance. This and other vague information confirmed him in the belief that he was in the vicinity of the wealthy Cipango and the golden potentate described by Marco Polo. Eager to prosecute his discoveries, and to land on this famous island, he weighed anchor, and left San Salvador on the evening of the 14th. Several other islands were visited, the natives of which received their visitors in the most friendly manner, freely bringing such offerings as they had for their refreshment, and all agreeing in the exciting story that there was much gold to the southward.

On the 28th of October the noble shores of Cuba loomed high in the western horizon, and after the vessels had anchored in a beautiful river, the admiral, in his boat, explored the country, enchanted with its beauty. The rude huts, however, and the simple instruments which he discovered, betokened no higher degree of civilization than he had already discovered. The vegetation was beautiful and the eye was delighted with a variety of palms, differing from those of the eastern hemisphere. He imagined that he smelt the fragrance of oriental spices, and heard the voice of the nightingale.

The Spaniards were astonished at beholding, for the first time, the use of tobacco, which the natives smoked in the form of segars—a custom since so universally prevalent throughout the world. At this time, also, the potato, cultivated by the Indians, was first brought to the notice of Europeans. Great quantities of cotton were found under cultivation, or manufactured into the simple fabrics of the natives.

Turning from a course which would soon have conducted him to the main-land of America the admiral, on the 12th of November, sailed for the famed Barbeque. He was, however, baffled by contrary winds, and during this delay Martin Alonzo Pinzon, who commanded the *Pinta*, deserted him, and, from the superior sailing of his vessel, was soon lost to sight. Much disheartened at this piece of treachery, he turned back to Cuba, and for some time renewed his explorations of the coast.

On the 5th of December, having passed the eastern extremity of Cuba, the voyagers beheld a new land, high and mountainous, looming in the south-east. It was Hayti, the most beautiful and unfortunate of islands. On the evening of the following day they arrived there, and for several days coasted along its shores, enraptured by the beauty of the island—its verdant mountains, wide-spreading savannas, and green, cultivated valleys stretching to the interior. In honor of his adopted country, the admiral bestowed on it the name of Hispaniola.

On the 22d, he received an embassy, with presents from an important cacique, named Guacanagari. The messengers dispatched in return found his town large, neat, and well-built, and were afterwards received with great honor and hospitality. Two days afterwards, while sailing nearer to the res-

idence of this friendly chief, the careless mariners, during the night, ran the Santa Maria on a shoal, and the sea and the force of the current rendered her a complete wreck, which misfortune compelled him, with his crew, to take refuge in the little caravel Nina, now his last resort.

Nothing could exceed the kindness of the generous cacique, and his sympathy with the misfortunes of his guests. Even the rude sailors were enchanted with the beauty of the land, and the kindness and gentleness of their entertainers; and a considerable portion of his people, viewing with apprehensions the voyage to Europe in a crowded caravel, besought of Columbus permission to remain on the island. This idea thoroughly harmonized with his views, and he now began to regard his shipwreck as a providential dispensation for the colonization of the island and the exploration of its resources. The wreck was broken up and brought to shore, the Indians eagerly assisting in the work; and in ten days a substantial fortress was constructed of its remains, and mounted with the guns of the vessel. This fortress, called *La Navidad*, or the Nativity, was manned by 39 volunteers, under command of Diego de Arana, a civil officer of the expedition: when, taking leave of his generous entertainers, Columbus, on the 4th of January, 1493, set sail, to carry the tidings of his eventful voyage to the shores of Spain.

For some days the little caravel coasted along the shores of Hayti, delayed by baffling winds. On the 6th, to the surprise and joy of all, their consort, the *Pinta*, was seen coming down with full sails before the easterly gale, and both vessels anchored near the island. Pinzon, by frivolous excuses, endeavored to account for his desertion, and the admiral, though aware of his treachery, thought it prudent to pass the matter over. They

coasted along for some days, during which, according to Columbus, they "saw the wonderful spectacle of three mermaids," probably sea-calves. In the great Gulf of Samana, where for a time they anchored, they found a fiercer and more warlike race than their gentle entertainers at the other end of the island. These were the Ciguayans, a bold and fearless tribe of mountaineers, who possessed the elevated regions of the coast. Their bows and arrows, their clubs, and their heavy swords of palm-wood, were of an effective and formidable kind. After some peaceable intercourse, they approached in a hostile manner, but were put to flight by the superior weapons of the Spaniards. The admiral grieved over this untoward chance; but the frank and fearless natives came as readily as before to see the mysterious strangers. Their cacique sent a string of wampum, in token of amity, and soon visited the admiral's ship in person. So pleased was he with his reception that he sent Columbus his coronet of gold—a princely compliment, the same which Guacanagari had already paid to his majestic visitor.

On the 16th of January, 1493, the two caravels again set sail, and Columbus ordered his prow to be turned directly homeward. On the 13th of February a violent storm set in, and these little vessels, undecked, and ill-fitted to stand the fury of the Atlantic, were in the most fearful peril. During the following night the *Pinta* was lost sight of, and Columbus, with gloomy forebodings, took the precaution of writing two accounts of this voyage. Securing them by wax from the action of the water, he put one in a barrel, and threw it overboard; the other he placed on the stern, secured in a similar manner, that it might float off if the little bark should be swallowed up by the waves. The fury of the storm gradually

abated, and on the morning of the 15th an island was descried in the N. E. For two days longer, the continuance of the tempest kept them at sea; but on the 18th they were enabled to cast anchor under the lee of St. Mary's, a Portuguese island, the most southern of the Azores. After a most ungenerous reception at the hands of civilized men, the tempest-wearied voyagers, on the 24th, again set sail, and on the 4th of March, 1493, the little bark anchored safely in the mouth of the Tagus, when the admiral immediately dispatched a courier to his sovereign, with the tidings of his momentous discovery. The highest interest and curiosity were instantly excited throughout the vicinity. The Tagus was covered with boats, and Columbus was invited to appear before the king. Stifling the distrust inspired by repeated treachery, he appeared in the royal presence, and was received with those high honors which John, himself an enthusiast in maritime enterprise, well knew were due to the discoverer of a world. The monarch, devoured by chagrin at the splendid prize which he had allowed to slip through his fingers, listened with deep interest and mortification to his wondrous story, and resolved forthwith to dispatch a powerful expedition to seize by force of arms on the tempting provinces which he had described.

On the 15th of March, Columbus again cast anchor in the port of Palos, from which, a little more than seven months before, he had sailed on this most eventful and wonderful of voyages. The people of that place, who had long given over their friends and relatives as lost in the obscurity of the unknown ocean, were filled with joy and exultation. The bells were rung, and a solemn procession was formed to the principal church. In the midst of this general rejoicing, Pinzon, who had made the port of Bayonne, and, coveting the

chief honor of the exploit, had thence dispatched his tidings to the court, entered the harbor. When he saw the vessel of the admiral already at anchor, his heart died within him, and he kept in private till Columbus had departed. A reproachful letter from the sovereigns added to his shame and remorse, and in a few days he died of a broken heart, the prey of grief and humiliation.

The court of Castile and Arragon had been filled with exultation at the letter of the admiral. This splendid addition to the empire was regarded as an immediate gift of Providence, the reward of their pious crusade against the Moors. Columbus was enjoined to make immediate preparation for another and more important expedition, and then to present himself before the sovereigns at Barcelona. His journey thither resembled a triumphal procession. The roads were thronged with people eager to catch a glimpse of the trophies of the Indians, and above all, of the great discoverer. As he approached the city, a number of noble cavaliers, with a great multitude of the citizens, came forth to meet him. All the ceremonial was on the grandest and most imposing scale. The sovereigns, in a great public assembly, rose from their thrones to receive him, and bade him be seated in their presence—honors, according to the proud etiquette of the age, due only to the visits of royalty.

All was now sunshine and prosperity with the fortunate adventurer, so long the victim of poverty, obscurity, and neglect. Wherever he went, multitudes of admiring gazers surrounded him, and he received the highest personal honors and privileges from the elated sovereigns. Meanwhile, aided by the royal commissioners, he was actively engaged in fitting out a second and more extensive expedition. A fleet of 17 vessels, mostly of a small

class, was speedily equipped, and great preparations were made, not only for traffic with the Indians, but for the foundation of permanent colonies.

It had been intended that only 1,000 persons should sail in the expedition, but this number, by stealth and importunity, was found on the day of sailing (Sept. 25, 1493,) to have swelled to 1,400. Their course lay more to the southward than in the former voyage, and they sailed rapidly onward, with, for the most part, propitious and favorable gales. On the 3d of November, they perceived the lofty peaks of Dominica, so named by the pious admiral in honor of its discovery on the Lord's-day. This island is one of that beautiful chain of the Antilles, which, from Porto Rico to the east of Paria, displays a magnificent variety of mountains and tropical scenery.

As the fleet, with a gentle breeze, swept onward on the stillness of the Sabbath, island after island arose amid the tranquil sea. On one of these, which, in honor of his ship, he named the *Mari-galante* (a name which it still bears), the admiral landed, and took formal possession, but discovered no trace of the existence of human beings. On the 4th, he landed at Guadalupe, where lofty and volcanic precipices form one of the most striking features of the archipelago. The natives, like most savages, fled from the unaccustomed sight of the white men; and to secure their good-will, the Spaniards bound hawks' bells and other trinkets upon the children which they had left in their dwellings. The discoverers, however, were soon struck with horror at the sight of numerous human remains, such as skulls, which appeared to be used as drinking vessels, and other domestic utensils. This convinced them that they had come upon the abode of the Caribs, a fierce race of cannibals, which had been described with horror

by their former entertainers, and this conjecture was speedily confirmed.

On the 10th they again weighed anchor, and stood in the supposed direction of Hayti, or Hispaniola, discovering, as they went, numbers of the islands which compose this splendid archipelago. To some of these, from their surpassing number, Columbus gave the name of the Eleven Thousand Virgins. He soon arrived at a large and beautiful island called, by the natives Boriquen, and now styled Porto Rico. Its inhabitants were enemies of the Caribs, but like them were cannibals, devouring their prisoners. On landing, well-built and neatly-ornamented huts were seen, and the signs of industrious cultivation; but the natives had fled in terror from their formidable visitors. On the evening of the 27th the admiral arrived at La Navidad, and fired cannon as a signal to his friends on shore; but no answering report was given, for they had all, as was afterwards ascertained, fallen victims to their own imprudence.

On account of the melancholy associations and somewhat unfavorable location of La Navidad, Columbus resolved to leave it, and to found his new settlement in some more eligible spot. He weighed anchor on the 7th of December, and while cruising along the coast was compelled by adverse winds to put into a harbor about 10 leagues E. of Monte Christi—a bold and lofty promontory, which still bears the name bestowed by its discoverer. Struck with the natural advantages of the place, both for fortification and improvement, he determined to found a city, the earliest built by Europeans in the new world, and to name it in honor of his munificent mistress, Isabella. Accordingly, a busy scene of disembarkation was soon presented. The crowds, so

long pent up in the confinement of ship-board, joyfully landed, and the numerous stores and materials for colonization were piled upon the beach. Streets and squares were laid out, and houses constructed of wood and other convenient materials—the church and public magazine, and the admiral's residence, however, being built of stone.

The admiral now dispatched to Spain 12 of the vessels, and with them sent specimens of gold, and of the productions of the island. In his letters he described in glowing terms the beauty of the scenery and the fruitfulness of the soil, which was evinced by the rapid growth of the sugar-cane, and of other plants introduced from the old world. As the returning sails disappeared in the eastward, the hearts of the colonists sank within them, and a dangerous conspiracy was set on foot for the seizure of the remaining vessels, and an immediate abandonment of the colony. It was detected, however, and promptly suppressed.

Columbus having thus for the present arranged the affairs of the colony, prepared for a new voyage of discovery, during which he reached the island of Jamaica, which still bears its aboriginal name. After meeting a hostile reception from a large fleet of Indian canoes, the Spaniards approached the beach, which was lined with a great number of the natives, yelling fiercely, and hurling their javelins at the intruders. The superior courage and weapons of the Europeans, soon put them to flight, and Columbus, landing, took formal possession of the island, which he called Santiago. Still sailing westward, he found the sea studded with an innumerable archipelago, mostly uninhabited, to which, from its beauty, he gave the name of the Queen's Garden, and which he supposed to be identical with that great cluster of islands described by Polo as fringing the terri-

tories of the Khan. He supposed that by passing on, he should pass the Great Gulf of the Ganges and the Arabian Sea, and arrive at the straits of Bab-el-Mandeb. Thence he would travel overland to Jerusalem, the object of his deepest interest and veneration, and pass to Spain through the Mediterranean. At this very time Columbus was so near the western extremity of the island, that two or three days' sail would have carried him to the Gulf of Mexico, and disabused him of the error, in which he continued to his dying day, of supposing that Cuba was the eastern projection of the Asiatic continent.

On the 13th of June, retracing his course, he stood S. E., and soon discovered the Isle of Pines, which he named Evangelista, and from thence returned to the fort of Isabella, where he found affairs in a very bad condition. To his great joy, however, he saw his favorite brother Bartholomew, who had arrived from Spain some months before. Learning that misrepresentations unfavorable to his interests had been made at the Spanish court by those who had gone back with disappointed expectations, Columbus resolved to return to Spain with Aguado, and defend his reputation in person. But, when all was prepared for embarkation, a terrific hurricane arose, which destroyed all the vessels in port except the *Nina*, and laid waste the island in the most fearful manner. The *Nina* being repaired, and a new caravel built from the wrecks of the others, on the 10th of March, 1496, the vessels set sail in company; but it was not until the 11th of June that the caravels cast anchor in the bay of Cadiz.

The sovereigns, still mindful of his great services and capacities, received him kindly, and made no mention of the calumnies of his enemies. Isabella still stood his firm friend, and conferred

many favors upon him. A solemn edict was issued, making his titles and estate hereditary, and he forthwith made an official testament that his chief heir should never sign by any other than the honorable title of "The Admiral." In spite of the royal favor, fresh difficulties beset the path of the adventurer. It was found impossible to enlist the requisite number of mariners and colonists from among a people alarmed at the disastrous reports of the disappointed refugees. An arbitrary order to impress vessels and their crews seemed to remedy a part of the deficiency, and, to supply the other, resort was had to the expedient of embarking numbers of convicts and other evil-doers, to increase the population of the settlement at the expense of its morality.

On the 30th of May, 1498, Columbus, with 6 vessels, set sail from the port of San Lucar, on his third voyage of discovery, and after encountering great sufferings in the calm latitudes, on the 31st of July, when there remained but a single cask of water in each ship, land was descried from the mast-head. It consisted of three mountains, which soon appeared joined at the base. Columbus had already resolved to name the first land he should discover in honor of the Holy Trinity, and this appearance, from its singular coincidence, struck him in the light of a mysterious providence. He therefore, with great solemnity, amid the joy of his companions, bestowed on it the name of *La Trinidad*, which it still retains.

On the 1st of August they made land to the south, which they supposed to be an island, but which, in reality, was the coast of South America. Passing the narrow and boisterous strait which separates Trinidad from the continent, and to which he gave the name of "*Boca de la Sierpe*" (Serpent's mouth), Columbus entered the tranquil

Gulf of Paria. He ran along the northern coast of Paria, and on the 15th of August discovered the islands of Margarita and Cubagua, since famous for their pearl-fisherics. At the latter he procured some splendid specimens as presents for the court.

While Columbus was prosecuting his discoveries, which he continued to do unremittingly as his health permitted, his enemies at the court of Spain were as zealously employed in undermining his reputation and disparaging his services. They finally so far succeeded in their nefarious purposes as to cause him to be superseded by a supple, time-serving tool of their own, (one Francisco de Bobadilla,) who, on his arrival in the newly-formed colonies, deported himself in the most insolent and unwarrantable manner, and eventually concluded a series of unscrupulous and overbearing acts by sending his illustrious predecessor, manacled like a common felon, back to Spain.

In this condition Columbus embarked for his return in October, 1500. After the vessel was out to sea, Villejo, who had charge of the prisoners, would have taken off his irons, but the admiral proudly and gravely refused. "Their majesties," he said, "commanded me by letter to submit to whatever Bobadilla should order in their name; by their authority he has put upon me these chains; I will wear them until they shall order them to be taken off, and I will preserve them afterwards as relics and memorials of the reward of my services." This striking resolution, the offspring of a deeply wounded and indignant heart, he religiously fulfilled. The chains were always seen hanging in his cabinet, and he charged that they should be buried with him when he died.

On his arrival at Cadiz, and the publication of

these circumstances, the Spanish nation experienced a universal shock of shame and indignation. The court, which probably had not contemplated such results, hastened to rescue itself from obloquy, and to make ostentatious amends for its injustice. The sovereigns wrote to him, deploring the unhappy event of their mission, and making provision for his honorable appearance at court. He appeared before them at Granada, with much state and dignity, and met with the most favorable and distinguished reception. His patrons expressed high indignation against the conduct of Bobadilla, which they entirely disavowed, and promised that he should be forthwith dismissed from office, assuring Columbus of his speedy restitution in all his honors and privileges. But he was doomed, during the brief remainder of his life, to experience, with continued disappointment, the fickle and faithless nature that is too generally the attribute of crowned heads.

He now began to consider South America as a separate main-land, but still clung firmly to the belief that Cuba was a part of the great Asiatic continent. The impetuous current which runs between them, he concluded, must flow from the Indian Sea, which, in his opinion, was connected with the Atlantic by a strait somewhere in the neighborhood of what is now known as the Isthmus of Darien. This strait, the pathway to the golden shores of the East, he now proposed to discover and explore; and his plan met with the favor of the sovereigns, who were still willing to employ in extending their territories the man whom they had deprived of his right to rule them, and he was accordingly empowered to fit out a suitable expedition forthwith.

Overcoming many obstacles devised by his enemies, Columbus sailed from Cadiz on the 9th

of May, 1502, with 4 small caravels and 150 men, on the last of his arduous voyages of discovery. On the 30th he discovered a small island, which still retains its Indian name of Guanaja, and which lies near the coast of Honduras, whose mountains are visible to the South. Here the Spaniards were surprised by the appearance of an immense canoe, which had probably come from Yucatan. It was filled with Indians, whose utensils indicated a considerable degree of art and ingenuity. There were copper bells and hatchets, and many curious and useful fabrics on board. Columbus now reasonably supposed that he was approaching a more civilized country; and had he pursued the direction which these people indicated, might soon have fallen upon the wealthy regions which lie to the westward of the Gulf of Mexico. Eager, however, to prosecute his intended discovery, he set sail for the main-land, and passing Cape Honduras, steered eastward along the coast in quest of the desired strait.

On the 14th of September they rounded that point whence the coast runs southward, and which, in gratitude for his success, the admiral named Cape Gracias a Dios. He coasted for about 60 leagues along what is now called the Mosquito Coast, and on the 25th of September anchored in a beautiful harbor, formed by an island and the main-land. After some friendly intercourse with the natives, on the 5th of October he again set sail, following the shore of Costa Rica, and soon anchored in a great bay, where he had been assured gold was to be found in abundance. The channel of the bay (Carnabaco), by which he entered, is still called the "Boca del Almirante," (Mouth of the Admiral). From thence he sailed by the rich coast of Veragua, finding gold very plentiful wherever he landed.

The generous desire of effecting a grand discovery, however, prevented him from lingering in these inviting regions. He pressed onward, and on the 2d of November anchored in the beautiful harbor of Porto Bello, which still bears the name he bestowed. He next made Cape Nombre de Dios; but adverse weather prevented his further advancement. His crews were worn out with contending against storms, and his vessels were so leaky, from the ravages of worms, that it seemed almost hopeless to proceed. He relinquished, therefore, for the present, his search for the continually-retreating strait, the existence of which, perhaps, he began to doubt, and turned his prows to the rich coast of Veragua. Here, then, ended the lofty anticipations which had elevated him above all mercenary interests; which had made him regardless of hardships and perils; and had given a heroic character to the early part of his voyage. * * * * *

On the 20th of September, 1504, the aged admiral, having exhausted all his available funds in providing for his crews, set sail for Spain. After a tedious and tempestuous passage of nearly two months, he arrived at San Lucar, and soon after, exhausted by old age and toil, was borne to Seville.

The last moments of the great discoverer were drawing near. The iron frame which had proved equal to so many hardships was finally worn out by old age and constant exposure, with their attendant maladies; and the brave and indefatigable spirit which no danger could awe, and no misfortune discourage, was fast sinking under the weary burden of neglect and ingratitude. After making his will, and settling his earthly affairs, he received those consolations of the church on which he set so high a value, and expired with great tranquillity, May 20, 1506, being about 70 years of age.

NOTES ON J. SCHONER'S MAP.

FACSIMILE OF THE ORIGINAL.

THIS CHART, embracing an immense circle in its various parts, the type of the round world, has been compiled by the assiduous care of at least two persons, and at the expense of one. John Seyler collected the materials, which materials John Schoner considered worthy of use, and this accomplished scholar collected it into this circular form, and stamped it throughout with appropriate figures, at the period when the auspicious year A. D. 1504 had added its lustrous course to time.

1. The Spaniards came as far as this place, and were astonished at its size, and they supposed it to be a continent. There is no mention of this region among the ancients. Among the first who came to these shores were the Castilians, and afterwards the Portuguese, and, on account of its large size, they called it the New World. It is peopled by a race of most cruel man-eaters (called cannibals): they invade the neighboring islands; they treat their captives, male and female, with dreadful persecution. They fatten the men before killing them for eating, but the old men they give up to instant death: they cut out their intestines, and cast away their limbs, but the flanks and other parts of the body they preserve in salt. They keep the women *ratione partus, rient gallinae apud nos propter ova*, and make laborers and servants of them.
2. This island is distant 1,500 miles from the great eastern continent: it is full of inhabitants, having a king who pays tribute to no one. It abounds in gold and great trees.
3. This region is thinly inhabited, and by some is supposed to be another quarter of the world; the men and women are either nude, or clad in garments of roots interwoven with the various colored feathers of birds. They perforate their lips. In some parts they do not live in marriage, but in common, without any religious rites. They wage frequent wars, and devour the flesh of their captives. They have such a genial climate that many live upwards of 150 years. They are rarely sick, and when indisposed, cure themselves with roots.

PAUTA, an island abounding in valuable wood.

NECU, an island of idolaters, leading beastly lives; they kill their sick.

JAVA MAJOR, inhabited by an idolatrous people; they are cannibals. Here is found copper, gold, &c.

ANGAMA.—These islanders lead a beastly life. It abounds in spices.

JAVA MINOR has eight kings.

MIDDLE INDIA has a king; the inhabitants are idolaters, and are warlike. It abounds in spices, and various kinds of gems; the animals are numerous, and of various kinds.

CIAMBA, or SIAM, a large province, having an idolatrous king. Here they have elephants in abundance, aloes and ebony, and all kinds of gems.

THIBET.—Here are found immense fowls.

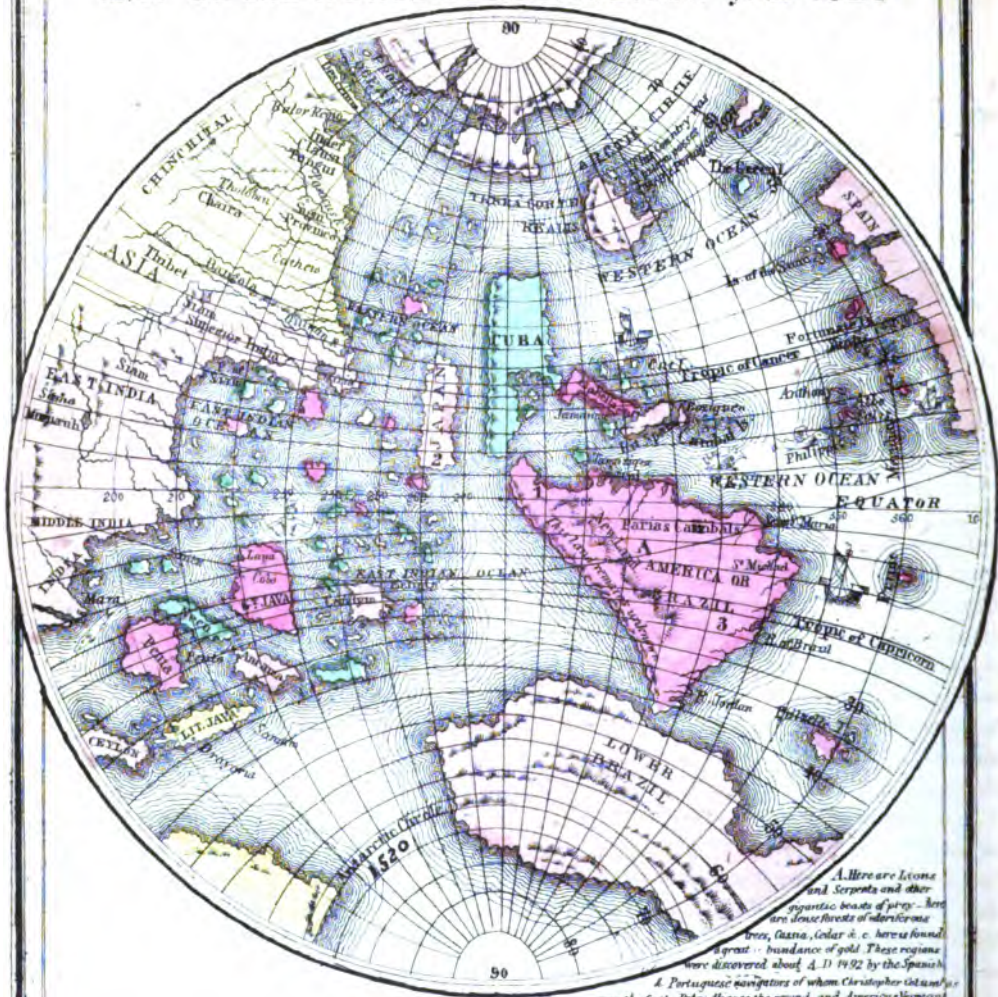
CHAIRA includes the province of Lary, governed by seven kings under the great King of Siam.

SIGUL.—Here are found palm trees, silver, &c.

ISABELLA, LITTLE SPAIN, JAMAICA, &c.—Here are gold, mastic, aloes, porcelain and ginger: these islands were discovered by Captain Christopher Columbus, under the King of Castile A. D. 1492.



MAP OF THE WORLD BY J. SCHOENER year 1520



WESTERN HEMISPHERE

A. Here are Lions and Serpents and other gigantic beasts of prey. Here are dense forests of odoriferous trees, Cassia, Cedar &c. here is found a great abundance of gold. These regions were discovered about A.D. 1492 by the Spanish & Portuguese navigators of whom Christopher Columbus was the first, Peter Alvarez the second, and Americus Vesputius the third.

AMERICUS VESPUCIUS.

Amerigo Vespucci (Latinized into Americus Vesputius) was born at Florence, on the 9th of March, 1451. He was of a noble, though reduced family, and received an excellent education, considering the times, from his uncle, Georgio Vespucci, a monk of the fraternity of St. Mark.

Vesputius engaged in commerce in his native city, and acquired considerable wealth, but meeting with misfortune, was finally, in 1493, compelled to accept a commercial agency in Spain. He went to Seville, and there, on the death of his employer, was engaged by the sovereigns in fitting out vessels for exploring expeditions. In this city he became acquainted with Columbus, with whom he had much discourse about his late discoveries. The memorable voyage of Columbus, in 1498 (when he discovered South America), and the glowing accounts which, in the following year, he dispatched to Spain, awakened fresh excitement among the ambitious spirits of the court. Alonzo de Ojeda had, by the favor of Bishop Fonseca, been possessed of the information which Columbus had forwarded to the court, and, with Vesputius and others, forthwith fitted out an expedition for the tempting region. They set sail in four ships, from near Cadiz, and with the chart of Columbus to guide them, and several of his late crew on board the fleet, they reached the continent in 24 days. They first made land at a point considerably south of that which Columbus had discovered, being what is now called Surinam.

Sailing northward, along the Gulf of Paria, they remarked the immense quantity of fresh water which is here poured into the ocean from the Orinoco, the Essiquibo, and other great rivers, and finally landed on the island of Trinidad. Ves-

pucius, in his letters, has given an interesting account of the inhabitants of this island, as well as of other places where he touched. They stopped at the Gulf of Pearls, and at the Caribbee Islands, where they had a battle with the natives, in which the latter, in spite of their bravery, were defeated, and their villages were burned to the ground.

They coasted along the island of Curraçoa, and in a beautiful lake-like harbor were surprised to find a village of large houses, built upon posts in the water, and reminding them of Venice. Hence, the name Venezuela (Little Venice). Though he had a sharp affray with the natives of this place, Ojeda, with unusual forbearance, spared their singular and ingenious habitations. Thence he sailed into the Gulf of Maracaibo, where the adventurers were received by the Indians with great kindness and hospitality. At one time, more than a thousand of these simple people came on board the vessels, gazing with wonder on all around them. At the discharge of a cannon, however, they leaped overboard in great numbers, "like so many frogs," says Vesputius. Some singular customs, half misconceived, are related of these Venezuelan tribes. "They pray to Idols," says an old writer, "and to the Denill, whome they paint in such forme as he appeareth to them. They lament their dead Lords in Songs in the night time, made of their prayers: that done, they rost them at a fire, and beating them to powder, drink them in wine."

Disappointed in their expectations of gold and jewels, they turned their prows to other islands, and busied themselves in the atrocious task of slave-catching. Finally, in June, 1500, they arrived at Cadiz, with their ships crowded with unhappy captives. These they sold as slaves; but the expedition proved an unprofitable one.

In the following year (1501), Vesputius went to Portugal, and sailed in a vessel dispatched by King Emmanuel, on a voyage of discovery. This vessel touched upon Brazil, of which Vesputius naturally supposed himself the discoverer; and from the description which he wrote, as from other circumstances, it became fashionable to compliment him by calling the country America, after his name. But this coast had been partially explored by Vicente Pinzon, the preceding year in his cruise, which resulted in the discovery of the Amazon; and Alvarez Cabral, sailing on his memorable voyage to India, had, very nearly at the same time, accidentally touched upon its shores. But these circumstances were probably unknown to Vesputius.

On the 10th of May, 1503, he sailed in another Portuguese expedition, of six vessels, (one of which he commanded,) intended for the discovery of Malacca, renowned by report for its wealth in spices. His vessel, by a disaster, was separated from all the squadron except one, with which he made his way to the Brazils, and discovered "All Saints' Bay." Here he waited for two months, hoping to be joined by the remainder of the fleet, which, in case of separation, were to hold a rendezvous on that coast. Seeing nothing of them, he sailed 260 leagues further S., and there, during a stay of five months, built a fort, and loaded his ship with Brazil wood. Leaving a garrison of 24 men, he then set sail for Lisbon, where he arrived in June, 1504. Nothing more was ever heard of the vessels from which he had been separated.

Meeting with little reward for his services from the Portuguese monarch, in 1505, he again passed into Spain. Here we find him offering his services (which, however, proved unavailing,) to pro-

cure for Columbus the rights and dignities withheld by the court. He was admitted a citizen of Spain, and with Vicente Pinzon, was commissioned to sail on a fresh voyage of discovery. He remained at Seville for several years, endeavoring to fit out this expedition, but from some unknown cause it fell through, and Vesputius was appointed to the lucrative and responsible office of Chief Pilot. In this employment he continued until his death, February 22d, 1512.

SEBASTIAN CABOT.

But little is known of the early life of this distinguished navigator, beyond the fact that he was the son of John Cabot, a Venetian merchant and sea-captain, and was born in Bristol, (England,) about 1477. When four years old, he was removed by his father to Venice, and there received such an education as not only enabled him to become a skillful mariner, but to apply that skill in extending the sphere of maritime operations. He returned to England in his youthhood, at a time when all Western Europe was filled with romantic enthusiasm by the splendid discoveries of Columbus, and he at once became emulous to "attempt some notable thing" by which he might gain distinction in a like adventure.

Henry VII. had entered into a spirited rivalry with Spain and Portugal for the encouragement of voyages of discovery, and he soon afforded Cabot the opportunity he desired. In March, 1496, a patent was granted to John Cabot and his three sons (Lewis, Sebastian, and Sancius), to "sail to all parts, countries, and seas of the East, of the West, and of the North," for purposes of discovery in general, but more particularly to find a passage to India, which was the primary object of the first expedition. Although his father, from

his wealth and age, was first named in the patent, yet Sebastian was the chief director throughout the undertaking. He sailed from Bristol with five ships in the spring of 1497, directing his course to Iceland, whence, after some delay, he proceeded westward, and on the 24th of June he had the gratification of beholding a portion of the coast of Labrador, with the island of Newfoundland. This discovery, momentous as it was, seems to have excited something like a feeling of discontentment, when it was ascertained that the land ran towards the north, and was other than that land ("Cathay") for which he was seeking. He subsequently entered Hudson's Bay, and for several days continued a westerly course, in the hope of achieving his grand object; but his provisions becoming short and his crew discontented, he coasted some distance southward along the Atlantic, and returned to England, where his father died soon after.

Another patent having been granted, early in 1498 he again set sail, not only for purposes of discovery, but also for colonization—taking with him 300 men, whom he landed on the coast of Labrador, with the intention of forming a settlement in that inhospitable region; but the rigors of the climate were an insurmountable obstacle for such an enterprise; and, after again making diligent search for the north-west passage, he took the colonists on board, and steered for home. His reception was by no means so cordial as it would have been had another Newfoundland rewarded his anxious toil and privation, and the king declined any further assistance for what he began to regard as a hopeless object. Sebastian, however, it is said, fitted out vessels with his own means at Bristol, and made "great discoveries," mostly to the southward; but what they were, we have no means

of ascertaining, as little authentic is known of him until 1512, when he was employed by Ferdinand of Spain in improving maps and charts. In 1515 he was made a member of the Council of the Indies, and appointed commander of an expedition to seek the never-to-be-found north-west passage; but the death of Ferdinand destroyed his prospects, and he returned to his native land.

He was received very graciously by the new monarch, Henry VIII., who gave him the command of a small expedition for his favorite pursuits; but we know nothing of its results, except that he more thoroughly explored Hudson's Bay, and penetrated to the 67th degree of north latitude.

On his return, he was recalled to Spain by Charles V., who in 1518 appointed him to the honorable and lucrative office of Chief Pilot; formerly held by Americus Vesputius. In 1525 he was given the command of three ships to pass the Strait of Magellan in quest of the Moluccas—an enterprise he had himself suggested. During his voyage on this occasion, he turned up the great River La Plata, to effect an inland exploration. He left his ships at San Salvador, at the junction of the Parana and Uruguay, and proceeded up the river with his lighter craft. After erecting a fort, still called the *Sanctus Spiritus* (the Holy Ghost), he continued tracing the river upward, and finally passed into the Paraguay, which he ascended 34 leagues. He suffered many severe trials in the prosecution of this perilous exploration, from fierce conflicts with hostile savages, from insubordination among his followers, and more particularly from his rivals the Portuguese; but his indomitable energy surmounted all impediments, and after an absence of five years he landed in Spain with the satisfactory assurance that, if the expedition had not succeeded in all that was desired, it had

at least materially added to the knowledge of the South American Continent. His reputation as a discoverer and skillful mariner suffered no diminution, despite his numerous misfortunes, and he resumed his office of Chief Pilot.

In 1548, although in high favor with the emperor, he determined to revisit his native country, where he met with a welcome reception from the enterprising young king, Edward VI., who it is supposed made him Grand Pilot of England. A formal requisition for his return was made by Charles V. upon the English court, but it was unheeded.

Commerce was at this period in a very languishing state, and the chief merchants of London began "first of all to deal and consult diligently" with the experienced Cabot as to the best means of accomplishing its revival. He advised them to form a company, and seek an opening for traffic in the dreary and untraversed Northern Seas, which suggestion was readily adopted. Accordingly in 1553, three vessels were prepared, the outfit of which he zealously superintended, and placed severally under the command of Sir Hugh Willoughby, Richard Chancellor, and Cornelius Durfoorth. The first, with Sir Hugh and all his companions, perished on the dismal coast of Lapland; but the second, more fortunate, sailed eastward with perpetual sunshine through the Northern Seas, and, to the great surprise of the Russians, succeeded in reaching Archangel. Hence the adventurous Chancellor proceeded on a sled to Moscow, and presented himself before the astonished emperor, and thus was laid the foundation of that important trade which has since subsisted between England and Russia. Cabot was made president of the company, and, though in extreme old age, by his experience, ability, and industry, soon resuscitated the commerce of England.

On the death of King Edward and the accession of Mary, Cabot met with much coldness and neglect from the court he had served so faithfully. But it mattered little to him: his long and eventful career was nearly at an end. It is related that on his death-bed "he spoke flightily" of a certain divine revelation, which he might disclose to no man, for the infallible ascertainment of the longitude. Thus, it seems, were his last thoughts in unison with his past life, and the great discoverer calmly expired while still meditating on some new achievement in nautical science.

VASCO NUNEZ DE BALBOA.

This singular man, whose whole life was a remarkable compound of energy and improvidence, was born at Xeres de los Caballeros, in the province of Estremadura, in 1475, and early evinced a roving—not to say profligate—disposition. He was among the first who visited the South American coast; but not having imbibed a very high relish for the pleasures of the sea, he concluded to try his fortune in Hispaniola. Here he took a plantation, which did not at all meet his expectations, and in 1510 he took French leave of his creditors by smuggling himself in a cask on board the vessel of another adventurer, (Enciso,) who was sailing for the Isthmus of Darien, where great spoil and comfortable quarters were secured at the expense of the unfortunate aborigines.

Soon after his arrival, by means which redound but little to his credit, he succeeded in deposing Enciso, and assuming supreme authority, which he managed to maintain for a time by conciliating the Spanish court with large golden remittances, wrung from the defenceless natives by the most audacious and barbarous means. All the wealthy caciques, whether friend or foe, were indiscrimi-

nately plundered, either directly or indirectly ; and in many instances the most unbounded hospitality was not merely repaid with black ingratitude, but murder and devastation were the rewards of their entertainers.

During a visit to the cacique of Comagre, he received from his son a *present* of sixty slaves and the immense quantity of 4,000 ounces of gold, which, after deducting the royal portion, he ordered to be shared among his followers. While the shares were being weighed out, a quarrelsome tumult ensued around the scales ; when the noble native prince, seized with sudden contempt for the cause of this strife, expressively struck the instrument, and scattered the gold upon the ground. " Why should you quarrel for such a trifle ! " he exclaimed. " Behold those lofty mountains ! Beyond them lies a mighty sea, which may be discerned from their summits. All the streams which flow down the southern sides of those mountains into that sea, abound in gold, and the kings who reign upon its borders eat and drink out of golden vessels. Gold, in fact, is as plentiful and common among those people of the south as iron is among you Spaniards." He described the difficulties of the way, and the fierceness of the savage tribes by whom it was beset ; yet offered his own services and those of his warriors to assist in an expedition to the tempting region. His words made an unusual impression on the heart of Balboa, and inspired him with the noble ambition of enrolling his name on the list of great discoverers. He at once sent to Diego Columbus, then viceroy at Hispaniola, for reinforcements, backing his suit with a large sum of gold for the royal coffers.

Pending the result of this application, he resolved upon seeking out the great temple of Do-

bayba, the walls of which were said to be resplendent with golden ornaments, presented by wealthy chiefs or caciques ; and, although he did not find the object of his search, he discovered, in struggling through the marshy forests of the isthmus, a curious race of natives, who lived in strange dwellings (probably of wicker-work) among the spreading branches of the woods. It is related that the king, who was called Abebeiba, " hadde his pallace builded in the toppe of a hygh tree," and when the interpreters desired him to come down, intimating that his visitors were desirous of being on a friendly footing, he very positively declined having any intercourse with them. Upon this, they *magnanimously* " fell to hewing the tree with their axes ; " and when Abebeiba saw the chips falling on every side, he reconsidered his resolution, and " came downe with only two of his sons." He informed them that " hee had no golde, and that hee never had any neede thereof, nor yet regarded it any more than stones ; " but he promised to bring them some from the neighboring mountains, which promise probably he had no intention of fulfilling ; for the party waited several days in vain for his return ; when they " departed from thence, well refreshed with his victualles and wine, but not 'gold as they hoped." The trees, which are the common habitations of the natives, are described as being of immense size and height, and the agility of the servants, at royal entertainments in " running vp and downe the staires adherente to the tree," is spoken of as really wonderful.

At length, the expected aid arrived, and Balboa resolved to set forth at once in quest of the great sea, whose golden shores were said to lie in the south-west. Selecting 190 daring and resolute spirits, with a number of blood-hounds to overawe and discomfit the natives, on the first of

September, 1513—after one of those solemn invocations to Heaven which usually preceded a Spanish expedition, whether for the glory of the church or for massacre—he took his departure for the unknown ocean. On the way, he encountered several of the Indian tribes, some of whom he conciliated, and slaughtered others—policy, not humanity, being in all cases the governing principle. Pushing forward up the mountain, despite of all impediments, on the 26th, as they were near its summit, he ordered his companions to halt, enjoining upon them not to stir from the place. Wrought up to the highest pitch of expectation, he ascended alone; and, standing on a lofty peak of that mighty chain which divides the oceans, beheld the vast Pacific glittering in the south. His followers soon crowded around him, and formal possession was taken of the placid ocean, with all its shores and islands.

Hastening to the shore of the still-distant sea, one Alonso Martin reached it first, and, leaping into a canoe, called all to witness that he was the first European who had floated on that sea. When Balboa arrived, seizing a banner, he plunged into the waves, and with a bombastic preamble took possession of the sea, offering to maintain in the name of his sovereigns against any other prince or people, Christian or Infidel, their “empire and dominion over these Indias, islands, and Terra firma, northern and southern, with all their seas, both at the Arctic and Antarctic poles, on either side of the equinoctial line, whether within or without the tropics of Cancer and Capricorn, both now and in all times, as long as the world endures, and until the final judgment of all mankind.”

He immediately attempted to explore the coast, but the great peril and suffering he encountered, compelled him to relinquish his project. Incredible

quantities of gold and pearls were, however, readily furnished by the natives, who pointed to a distant group of islands, which they represented to be especially rich in the latter precious commodities.

When the expedition set out to return, early in November, several of the caciques sent large numbers of their subjects to assist in carrying the burdens of gold and jewels. The avarice of the Spaniards resulted in the most disastrous consequences: for, refusing to permit their assistants to bring a sufficient quantity of provisions, lest they should not be able to carry gold enough, great suffering ensued from hunger, and many of them perished miserably by the way. Being compelled to halt on two occasions for several days to recruit their strength, it was not until the 18th of January, 1514, that Balboa reached Darien. The brilliant and enduring reputation which he had achieved as a discoverer was, however, stained by numerous deeds of outrageous cruelty and oppression, which it is not within our province to particularize.

Prior to the news of his success reaching Spain, the king had been induced to supersede him, and to appoint one Pedrarias Davila—an ambitious, relentless, and treacherous enemy—as governor of the rising colony; but when his great achievement became known, Balboa was immediately constituted “Lieutenant of the South Sea,” and governor of important provinces on the isthmus; yet he never recovered that commanding influence for which he had previously been distinguished.

In 1516 he began to make the necessary preparations for his long-cherished expedition to explore the great South Sea. Two hundred men were placed at his disposal, and he was empowered to build four brigantines for transportation across the mountains. Two of these vessels were con-

structed on the Atlantic shore, and were then with incredible labor taken piecemeal on the shoulders of men through the tangled forests and precipitous passes which led to the Pacific. Many of the hapless natives perished in this terrible task ; but it was remarked that the Spaniards and negroes supported their burdens with less fatigue. After an immensity of toil, suffering, and privation, two brigantines were floating on the River Balsas, which flows into the Pacific ; and in these little craft, the first of European construction which had ever floated on that wide-spread ocean, Balboa with his companions launched forth triumphantly on the unknown waters. Cruising to the eastward, along the southern shore of the isthmus, he passed beyond the Gulf of San Miguel, and pursued a course which, if continued, would have led him to the wealthy regions of Peru ; but, being baffled by adverse winds, he proceeded to the Isle of Pearls, where he busied his men in the construction of two additional vessels. Here rumors reached him that Davila had been superseded by a new governor, and he dispatched one Garabito to Darien to ascertain the truth. The treachery of this wretch, who was his secret enemy, proved the ruin of Balboa ; for by mischievous misrepresentations he so worked upon the jealous fears of Davila, as to lead him to suppose that his rival was aspiring to a new realm of his own on the Pacific. Dissembling his purposes, however, he sent a friendly message, requesting an interview, and the unsuspecting commander hastened to grant it. On the way, he was met by Francisco Pizarro with an armed force, and was taken in chains to Acla, a little village near the base of the mountain.

He was at once arraigned upon the charge of treason, which was sustained by the treacherous

evidence of Garabito and the misunderstood report of an unscrupulous eaves-dropper. Of course, he was found guilty, despite the most ample rebutting testimony, and an argument by himself which rendered his innocence almost self-apparent. An order for his immediate execution was issued by the sanguinary Davila ; and as he was led to the fatal spot, the public crier walked before him, proclaiming his treason. "It is false!" he exclaimed, indignantly ; "never did such a crime enter my mind. I have ever served my king with truth and loyalty, and sought to augment his dominions."—Having confessed himself, and partaken of the sacrament, with a firm step he mounted the scaffold ; and, adjusting his head upon the block, it was severed from his body by a single stroke, amid the sincere lamentations of the people. Thus perished (1517) in the prime of life the first European beholder of the Pacific, whose genius and courage—whatever may have been his faults—had endeared him to the Spaniards, who were eager to follow him on any enterprise, however toilsome or perilous.

FERNANDO MAGELLAN.

The hope of finding a westerly passage to the fragrant seas of India was almost relinquished, when a new and brilliant adventurer appeared. Fernando Magellan, or Magalhaens, was a Portuguese by birth, and had served in India for five years, under the famous Albuquerque. He particularly distinguished himself at the siege of Malacca ; and, being disappointed in his hopes of preferment, he tendered his services to the court of Spain. Pleased with his assertion of the right of Spain to the contested archipelago, Charles V. listened readily to his proposals for a fresh attempt to reach it from the westward, and placed at his

disposal five small vessels and 230 men. With this (for the times) respectable force, he left San Lucar, Sept. 20, 1519, on the most remarkable voyage since the first expedition of Columbus.

Sailing along the coast of Brazil, to nearly the fiftieth degree of S. latitude, in April, 1520, he entered a convenient harbor (naming it Port St. Julian), where he resolved to pass the winter, which extends in those latitudes from May to September. Here a formidable mutiny broke out, which was promptly suppressed, and the principals were punished with a degree of ferocity which it is barely possible the circumstances might have justified.

After being in this desolate region for about two months, without the sight of any natives, they were one day surprised by seeing on the beach a gigantic man, almost naked, who was violently gesticulating, and throwing dust on his head in token of amity. "He was so tall," says the amusing chronicler of the voyage, old Pigafetta, "that our heads scarcely came up to his waist, and his voice was like that of a bull." When brought on board, he expressed much wonderment at every thing around him; and on seeing the reflection of his face in a looking-glass, he started back in alarm with such force as to throw down four Spaniards who stood behind him. Numbers of his tribe soon appeared on the shore, "marvelling vastly to see such large ships and such little men." They are described as "a barbarous people, unarmed, onely couered with skinnes, a runagate people, withoute any certaine place of abode, lawlesse, of a large stature, and are called Patagones!"—signifying in Spanish "clumsy-hoofed," a designation which arose from their uncouth foot-gear, made of guanaco hide.

As early as the weather would warrant, the

squadron weighed anchor, and stood southward. In the latter part of October, Magellan beheld an opening to the westward—the famous strait which still bears his name; and a strong current flowing into it, inspired the hope of a free channel. The less adventurous spirits shrank from attempting a passage which might lead them into the worst of perils, and an earnest remonstrance was made against proceeding; but the daring commander avowed his intention to sail on, even if his crews were reduced to eat the hides from the ship's rigging—an anticipation of famine which was but too soon realized. Reminding the remonstrants of the fate of the late mutineers, and assuring them that such should be their own if they uttered a murmur, he boldly entered the formidable strait with three vessels. For 37 days they were involved in the perils of that intricate navigation, encountering frequent tempests, which added not a little to the horrors of their situation.

On the 28th of November the open sea was seen stretching before them, and Magellan stood northward to gain a milder climate. He afterwards pursued a westerly course for nearly four months, wafted along by such gentle and favoring breezes, that the great ocean he was traversing received the alluring title of THE PACIFIC. But their direst apprehensions of famine were, if possible, now surpassed—the crews being compelled literally to "eat the hides from the rigging," steeped in salt water; and those who, from scurvy of the gums, were unable to gnaw the tough and repulsive morsels, perished from actual starvation. During all this time, only two islands were passed, and those so lonely and barren, that they were called *Desventaduras*, or Unhappy.

On the 16th of March, 1521, when he arrived at the Philippine Islands, twenty of his men had

died, and the remainder were in a miserable state of suffering and exhaustion. After touching at several islands, on the 5th of April he arrived at the harbor of Zebu, which he entered (firing a grand salute) with all the pompous effect which his shattered squadron could assume. A good understanding was soon established with the sovereign of this island, and, with the usual zeal for proselytism, Magellan so far succeeded in making a Christian of him, that in a few days he and half his people were baptized. An opportune miracle or so hastened the good work, and in a fortnight after his arrival, the zealous commander had brought all Zebu and its neighborhood within the pale of the Church—except one incorrigible village, which, *in terrorem*, he burned to the ground, erecting a holy cross amid its infidel ashes!

By an unprecedented act of imprudence, all this civil, political, and religious triumph was suddenly converted into ruin and defeat. The chief of a neighboring island (Matan), who was an enemy of the king of Zebu, had, on the demand of Magellan, refused to pay tribute or allegiance to the Spanish crown; and that headstrong commander, intent on striking a fatal blow at any opposition, resolved at once to attack the refractory chief.

With only 49 Spaniards, he landed at Matan, and assailed a savage force of 3,000. The combat lasted several hours, the natives fighting bravely, and the Spaniards, despite their courage and the superiority of their weapons, falling one by one before the irresistible force of numbers. Magellan, who had been wounded by a poisoned arrow, and had his helmet twice struck off, continued to fight desperately until his sword-arm was disabled, when he was finally beaten to the ground, and overwhelmed with a shower of lances.

The victim of rashness, he perished at a moment when the highest prize of nautical achievement yet remaining—the circumnavigation of the globe—was already in his grasp. In a former voyage to the East, he had reached Malacca, and thus, at his death, only wanted a few degrees of completing the circumnavigation by voyages in opposite directions.

Of the five ships which had sailed on this eventful voyage, only one, the *Vitoria*, a little vessel of 60 tons, succeeded in completing the circumnavigation of the globe. After touching at many islands—among them the Malaccas, the object of the expedition—she arrived at San Lucar on the 6th of September, 1522—21 of her crew having died, and the remainder being worn out by the fatigues of a voyage which had lasted more than three years. The notable little craft, after having traversed nearly 50,000 miles of ocean, was drawn ashore, and remained for many years a monument of the most remarkable achievement of the century.

The honors which, had he survived, would have been due to Magellan, fell to the lot of Sebastian del Cano, the commander of the *Vitoria*. He was ennobled by the emperor, and was permitted to bear for his arms a globe, with the honorable motto, *Primus me Circumdedisti*—"Thou first hast encompassed me."

To the great surprise of the fortunate adventurer, he discovered that, in his protracted navigation, he had lost a day in his reckoning—arriving, according to his calculation, on the 5th of September. This circumstance, which, as a matter of course, must happen to all who circumnavigate the earth from east to west, was in that day matter for much perplexing speculation among the learned and scientific.

HENRY HUDSON.

A braver sea-king than Henry Hudson never launched his vessel in a fiord of Scandinavia, to traffic where he might, and conquer where he could. All that is known of his early life is, that he was a Londoner, and a friend of the famous Captain John Smith, with whom he often conferred upon the engrossing topic of discovery and exploration. His first known expedition, as recorded by himself, was undertaken at the instance of "certaine worshipfull merchants of London," as he says, "for to discover a passage by the North Pole to Japan and China." For this gigantic undertaking, which still continues to baffle the united exertions of Europe and America, his only equipment was a little vessel, manned by ten mariners. With these, and with his little son John, after all had solemnly partaken of the sacrament, he set sail from Gravesend, on the 1st of May, 1607, to explore the fearful recesses of the Arctic Zone. Compared with the hardihood of such an undertaking, all modern enterprises sink into insignificance. On the 13th of June he made the coast of Greenland, where he saw "a very high mount, like a round castle," which he named the *Mount of God's Mercy*. This coast he explored pretty thoroughly to a high latitude, "considering," he says, "wee founde Lande contrairie to that our cards" (charts) "made mention of. * * * * And for aught we could see, it is like to be a good land, and worth the seeing." He then stood to the north and east in so high a latitude that the sun was continually above the horizon, and in 78° fell in with Spitzbergen. About this island he hovered for some time, opposed by contrary winds and entangled among huge masses of ice, hopelessly endeavoring to work his way

to the northward. Convinced that from the lateness of the season it would be impossible to achieve his purpose, he sailed westward, vainly attempting to pass to the north of Greenland, and thence returned on the 15th of September to the Thames, having attained a higher latitude (82°) than any navigator who had preceded him.

The next year (April 22, 1608) he again sailed with his son and thirteen others to seek a passage to India by the north of Nova Zembla. He kept east and north until he gained so high a latitude that at midnight the sun was $5\frac{1}{2}^{\circ}$ above the horizon, on the northern meridian. He reached Nova Zembla, which, he says, "is to a man's eye a pleasant Land; much mayne high Land with no Snow on it, looking in some places greene, and deere feeding thereon. * * * * This place upon Nova Zembla is another than that which the Hollanders call Costing Sarch, discovered by Oliver Brownell," who, many years before, sailing northward, "moved by the hope of gain," had suffered shipwreck in these dreary seas. Hudson, as before, strove with much patience and fortitude to accomplish his purpose; but constant headwinds and floating ice prevented his little ship from proceeding, and after making considerable survey in these desolate regions, he returned (Aug. 26th) to England. On this voyage, like Columbus, he chronicles the appearance of a couple of mermaids, giving the evidence of two of his hands for authority. On a certain day, he relates, "one of our company looking over board saw a mermaid; and calling up some of the companie to see her, one more came up, and by that time shee was close to the ship's side, looking earnestly on the men; a little after, a sea came and overturned her. From the Nauill upwards her backe and breasts were like a woman's, (as they say that saw

her); her body as big as one of us; her skinne very white; and longe hair hanging downe behind, of colour blacke; in her going downe they saw her taylor, which was like the taylor of a porpoise, and speckled like a macrell. Their names that saw her were Thomas Hilles, and Robert Rayner."

His employers praised his skill and courage, but, losing faith in their scheme, abandoned the undertaking. The navigator, though foiled, was not disheartened. Finding no encouragement in England, he went to Holland, at that time the first maritime power on the earth. The Dutch East India Company, then sending its uncouth argosies to every clime, gladly employed "the bold Englishman, the expert pilot, and the famous navigator," of whose fame they had heard so much; and his thoughts and hopes were again with the perils of the Arctic Seas. A yacht of ninety tons, called the *Half Moon*, was placed at Hudson's disposal, and with a choice crew he sailed from Amsterdam on the 25th of March, 1609, for the coast of Nova Zembla. On the meridian of Spitzbergen, ice, fogs, and tempests disputed his passage, and he turned westward, passed the lower capes of Greenland, and made soundings on the banks of Newfoundland, on the 2d of July. He sailed along the coast to Charleston harbor, in search of a north-west passage "below Virginia," spoken of by his friend Captain Smith. In disappointment, he turned his prow northward, discovered Delaware Bay, and on the 3d of September anchored "at two cables' length from the shore," within Sandy Hook. He passed through the gateway of the Narrows on the 11th, and, from his anchorage in the beautiful New York Bay he gazed in wonder and hope up the noble Mahicannittuck, whose waters came rolling from the

high hills in the north. Towards evening the next day, he entered the broad stream, and at twilight cast anchor at Yonkers. A strong tidal current placed the stern of his vessel up-stream during the night. This event, and the assurances of the natives, who flocked to his vessel in canoes, with oysters and vegetables, that the waters came from far beyond the mountains, inspired him with great hope; for he doubted not that the river on which he was borne flowed from ocean to ocean, and would conduct him to the long-sought Cathay.

With a glad heart Hudson voyaged on. The magnificent Highlands were passed, and then hope failed, for the stream narrowed and the water became fresh. Yet there was enough to make his heart beat with highest pulsations of joy. He was voyaging in the midst of a paradise of beauty, on which the eye of a white man had never before gazed. Deputations of dusky men came to visit him, in wonder and awe, from the forest courts of the sachems. The new pathway to Cathay was yet undiscovered by him, but he had penetrated a world undreamed of by European minds, and he had revealed a mystery greater than that of the polar highway. He pressed onward. The stream became narrower and fresher, and the shores lower, when suddenly the blue domes of the lofty Kaatebergs, encircled with the glories of an autumnal sunset, enchanted him with visions of wondrous beauty. The yacht-voyage ended at Albany, but a boat's crew went on, and gazed upon the foaming Cohoes at the mouth of the Mohawk. Had they penetrated the wilderness a few leagues further, they might have met Champlain, who was then exploring the banks of the lake in northern New York, which bears his name.

Hudson returned to New York Bay, and, after a parting salutation with the *Manhattans*, and

taking formal possession of the country in the name of the government of Holland, he hastened to Europe to carry the glad intelligence of his discoveries to his employers at Amsterdam. He first landed in England, and told his story of the glorious land beneath the parallels of the North Virginia Charter. The bigoted Scotch monarch then on the throne of Elizabeth, jealous of the advantages which the Dutch might derive from these discoveries, would not allow Hudson to leave England, and for a long time the *Half Moon* lay idle in the harbor of Dartmouth. But the key to those advantages was already in the hands of the Dutch; for the navigator had sent his log-book, charts, and a full account of his voyage, to his Amsterdam employers. And so the "cunning, covetous, wasteful, idle, drunken, greedy, dirty, cowardly, great swearer, and most conceited man on earth," as Dickens calls King James, was foiled in his narrow policy, and the newly-discovered region was possessed by a population tenfold more worthy, as materials for the foundation of a state, than the idle and dissolute men who were, at that moment, lounging and half starving on the fertile banks of the Powhattan, in Virginia.

The fact that the new region discovered by Hudson abounded in beavers, otters, and other fur-bearing animals, excited the keenest commercial cupidity of the Dutch, for they had recently commenced a fur-trade with the people of Northern Russia, and had realized large profits. As soon as the *Half Moon* reached the Texel, she was refitted, and, with a part of the same crew, was sent, with beads and other trinkets, to open a traffic in furs with the Indians on Manhattan and its vicinity. Private adventurers also sent vessels on the same errand, and within two years a regular and profitable fur-trade was established.

The fate of this renowned voyager was melancholy in the extreme. He sailed from London in the following year, (April 17th, 1610,) in the employ of an English company, to search for that ever-fleeting phantasm of discovery, the north-west passage. With him went Juet, and one Habakkuk Pricket, who has left a journal of the voyage. He took his son, as usual, and a young man named Greene. His vessel, the *Discovery*, was manned by a crew of 23 men. Quarrel and sedition sprang up early in the voyage. At Iceland, Greene, having disputed with the surgeon in Dutch, "beat him a shoare in English," and Juet " (when he was drunke)" secretly maligned the captain, and even persuaded the crew to seize the vessel, and return to England. They doubled the southern point of Greenland, and were soon almost hopelessly involved in vast masses of ice.

Getting clear, at last, Hudson kept westward, and was engaged, during the month of July, in passing through the straits which bear his name. He then entered the great inland sea known as Hudson's Bay, and for a month longer steered a southerly course. At the end of that time he was brought up by the land, and passed September and October in making further surveys. The winter then came on, and he hauled the vessel aground, to await the approach of spring. By the 10th of November she was completely frozen in.

The winter passed drearily enough, and Hudson, soured by disappointment, and provoked by the seditious conduct of his men, became daily more gloomy and irritable. Fresh symptoms of mutiny, aggravated by his passionate indiscretion, soon appeared. The jealous and irritable temper of mariners long pent up together in disastrous voyages, is well known; and when to this source of dissension are superadded privation, suffering,

and the constant dread of starvation, it is hardly surprising that their minds should be filled with morbid imaginings, and that trifles should assume unnatural importance.

After enduring grievous sufferings from cold and hunger, this miserable little crew of adventurers, embittered by mutual jealousy and hatred, about the middle of June, got under way, and tried to continue their voyage. They were soon again hemmed in by the ice; the provisions were now almost exhausted, and Hudson incurred fresh ill-will by compelling the men to produce their private stores, "thirty cakes in a bagge" being the only fruit of this arbitrary enforcement.

An atrocious plot was now broached to Pricket by Greene and the boatswain, Wilson, who said that they, with Juet and other malcontents, had resolved to put their commander, with the disabled seamen, into the boat, and set them adrift; that there was no other chance of saving their own lives. Pricket remonstrated, but in vain; and seeing his entreaties unavailing, he finally compromised with his conscience by administering to each of the conspirators, upon a Bible, the following singular oath: "You shall swear truth to God, your Prince and Countreie; you shall do nothing but to the glory of God and the good of the action in hand, and harme to no man."

The unfortunate master, on coming on deck the next morning, was seized by the mutineers, and put on board the shallop. The sick and lame, with one or two others, were compelled to accompany him, Pricket in vain remonstrating, on his knees, for the love of God, against such barbarity. Sail having been made on the vessel, the shallop was for some time towed after her, but when partially clear of the ice, the inhuman wretches on board cut the line, and abandoned their mis-

erable victims. After sailing awhile, they lay to and runnaged the vessel for the small remainder of provision in the hold and the cabin, "sharking up and downe" throughout the ship. "Now it was said that the shallop was come within sight, they let falle the Maine-Sayle, and out with their Top-Sayles, and flye as from an Enemy." The little boat was soon again lost sight of, and nothing more was ever heard of its unfortunate crew. They doubtless soon perished of cold and hunger in the icy seas of the north.

MARTIN FROBISHER,

So renowned for his naval exploits in almost every sea, had from his youth upward been enthusiastically sanguine in his hope of solving the great secret of the Arctic Zone; and for fifteen years he had vainly sought the means requisite for his adventurous scheme, when at last, by favor of the Earl of Warwick, he was enabled to fit out a little flotilla of three vessels, the largest of which was 35 tons, and the smallest only 10. With this diminutive squadron he sailed from Yarmouth, June 19, 1576, to attempt a passage around the north of America.

He coasted along the southern extremity of Greenland, and in August reached Labrador, where for the first time the Esquimaux were seen by Europeans. They "rowed to his Shippe in Boates of Seales Skinnes, with a keele of wood within them," and proved very treacherous in several transactions which soon after followed. The country he had discovered was named *Meta Incognita*, and he returned home in October, bringing with him a bit of glittering stone, which the ignorant goldsmiths confidently pronounced to be gold ore. This was a sufficient stimulant for all classes to second his unabated ardor for discovery,

and Queen Elizabeth furnished a ship of 180 tons, with which and two smaller craft he again sailed in May, 1577. Passing Friesland, he steered for Labrador, and touched at the strait which still bears his name. He passed up this inlet in a boat, supposing the land on his left to be America, and that on his right Asia. The strait being cleared of ice by a N. W. blow, he sailed westward for 30 leagues, confidently supposing that it led to the Pacific. Ice beginning to form around the ships, it was considered hopeless, for the season, to proceed further on the (imaginary) voyage to China; and therefore the squadron took on board about 200 tons, of the glittering dross previously discovered, and returned to England.

Strange to say, the golden delusion was not yet dispelled. Scientific men, appointed by the queen, pronounced the ore genuine, and the passage to India feasible. Honors and rewards were lavished upon the fortunate adventurer without stint, and fifteen vessels were soon placed at his disposal, with which he sailed once more.

The fleet encountered great dangers from tempests and icebergs, and at last entered a great strait to the westward, probably the chief entrance to Hudson's Bay; but the fears of his associates compelled the return of the squadron without accomplishing any thing worthy of its magnitude.

The worthlessness of the trash he had formerly brought home was by this time discovered, and he could obtain no further aid to second his enterprises.—After a life passed in naval adventure and warfare, he perished in 1594 from a wound received on the coast of France.

JOHN DAVIS.

On the 7th of June, 1585, this excellent and kind-hearted seaman sailed from England with two

little vessels (the Sunshine and Moonshine), to effect further discoveries. He coasted along the western shores of Greenland to lat. 64° , where he landed, and was soon on friendly terms with the natives whom he astonished not a little by music from a band which he had taken with him. Thence he steered across the great strait which still bears his name, and after touching at Cumberland Island, and making some further explorations, returned home in autumn.

He sailed again on the 7th of May following; and after renewing his intercourse with the Esquimaux in Greenland, who ere long began to "practise their devilish nature," he crossed Baffin's Bay. On the 17th July he saw what was supposed to be an extensive coast, diversified with hills, capes, and bays; but, to his horror, found it only a "most mighty and strange quantity of ice." His crew remonstrated against proceeding farther, but he pushed on with his boldest mariners in the Moonshine, until he reached lat. $66^{\circ} 33'$, whence he coasted southward by Labrador, and so made his way to England. The English cod-fishery, since so valuable, may trace its slender beginning to this voyage—Davis having fallen in while returning with immense shoals of these fish.

In a third expedition, undertaken in 1587, Davis left his vessels at their former station on the coast of Greenland, and in a pinnace, "so dull that she sayled like a cart drawn by oxen," penetrated northward beyond 72° , and made fresh surveys of the two coasts. On returning to his rendezvous, he found that his vessels had deserted him, and, not having much choice left, he safely conducted his slender and ill-sailing little craft to England, where his unexpected arrival created no little excitement; but he was never encouraged to undertake another voyage.

GEOGRAPHICAL ADJUNCTS.

FOREMOST among these, perhaps, Magnetism is fairly entitled to a high rank. Humboldt considers it extremely probable that Europe owes the knowledge of the northern and southern directing powers of the magnetic needle—the use of the mariner's compass—to the Arabs, who, in turn, were indebted for it to the Chinese; and in support of his opinion he states that a Chinese writer, who lived in the earlier half of the second century before our era, alludes to the “magnetic cars” which the Emperor Tsing-wang, of the ancient dynasty of the Tscheu, had given more than 900 years earlier to the ambassadors from Tunkin and Cochin-China, that they might not miss their way when returning home. In the third century of our era another Chinese writer described the manner in which the property of pointing with one end towards the south may be imparted to an iron rod by a series of methodical blows. (Owing to the ordinary southern direction of navigation at that period, the south pointing of the magnet is always the one especially mentioned.) A century later, under the dynasty of Tsin, Chinese ships employed the magnet to guide their course safely across the open sea; and it was by means of these vessels that the knowledge of the compass was carried to India, and from thence to the eastern coasts of Africa. The Arabic designations *zohron* and *aphron* (*south* and *north*), which Vicenzius of Beaurais gives in his “Mirror of Nature” to the two ends of the magnetic needle, indicate, like many Arabic names of stars which we still employ, the channel and the people from whom western countries received the elements of their knowledge. In Christian Europe the first mention of the use of

the magnetic needle occurs in the politico-satirical poem called “*La Bible*,” by Guyot of Provence, in 1190, and in the description of Palestine by Jacobus of Vitry, bishop of Ptolemais, between 1204 and 1215. Raymond Lully of Majorca—a singularly ingenious and eccentric man, who was at once a philosophical systematizer and an analytic chemist—a skillful mariner and a successful propagator of Christianity—in his book entitled “*Fenix de las Maravillas del Orbe*,” published in 1286, remarks that the seamen of his time employed “instruments of measurements, sea charts, and the magnetic needle.” The early voyages of the Catalans to the north coast of Scotland and the western shores of tropical Africa (Don Jayme Ferrer reaching the mouth of the Rio de Ouro in August, 1367), and the discovery of the Azores (the Bracier Islands on the Atlas of Picigano, 1367), by the Northmen, prove that the open Western Ocean was navigated long before the time of Columbus. To him, however, is due, not only the merit of having been the first to discover *a line without magnetic variation*, but also of having excited a taste for the study of terrestrial magnetism in Europe, by means of his observations on the progressive increase of western declination in receding from that line. On the 13th of September, 1492, he remarked: “24° E. of the island of Corvo, the magnetic variation changed, and passed from N. E. to N. W.” The fact that almost every where the ends of a freely-moving magnetic needle do not point exactly to the geographical north and south poles, must have been repeatedly recognized, even with very imperfect instruments, in the Mediterranean, and at all places

where, in the twelfth century, the declination amounted to more than eight or ten degrees.

The cosmographer Alonso de Santa Cruz, one of the instructors of Charles the Fifth, undertook (certainly with very imperfect observations) to draw up the first general *variation chart* in the year 1530, and therefore 150 years before Halley.

The advance or *movement* of the magnetic lines, the knowledge of which has been generally ascribed to Gassendi, was not even conjectured by William Gilbert, the earliest classical writer on terrestrial magnetism, although Acosta, "from the instruction of Portuguese navigators," had at a much earlier period assumed that there were four lines without declination over the earth's surface. (These four lines without variation led Halley, by the contests between Henry Bond and Beckborow, to the theory of four magnetic poles). No sooner was the dipping-needle invented in England by Robert Norman (1576), than Gilbert boasted that, by means of this instrument, he could determine a ship's place in dark, starless nights; and Humboldt, at a much later period, showed from his own observations in the Pacific, that, under certain local relations—as, for instance, during the season of constant mist on the coast of Peru—the latitude might be determined from the magnetic inclination with sufficient accuracy for the purposes of navigation.

On the remarkable chart of America appended to the edition of the geography of Ptolemy, published at Rome in 1508, the magnetic pole is marked as an insular mountain north of Gruentlant (Greenland), which is represented as a part of Asia; but Martin Cortez and Livio Sanuto place it farther to the south.

In 1683 Edmund Halley sketched his theory of four magnetic poles or points of convergence, and

of the periodical movement of the magnetic line without declination, basing it upon a large number of existing observations of declination of very unequal value, by Baffin, Hudson, James Hall, and Schouten. In order to test this theory, and render it more perfect by the aid of new and more exact observations, the English government permitted him to make three voyages (1698–1702) in the Atlantic ocean in a vessel under his own command, in one of which he reached 52° S. lat., and this constituted an epoch in the history of telluric magnetism. Its result was the construction of a general variation chart, wherein the points at which navigators had found an equal amount of variation were connected together by curved lines. As no phenomenon can be thoroughly investigated by a careful observer without being considered in its relation to other phenomena, Halley, on returning to England, hazarded the conjecture that the Northern Light was of a magnetic origin, and Faraday's brilliant discovery (the evolution of light by magnetic force) has since raised this hypothesis, enounced as early as 1714, to empirical certainty.

LATITUDE AND LONGITUDE.

The ancient misconception of the figure of the earth has inadvertently given to modern times two terms which have no proper reference to the subjects to which they are applied—namely, latitude and longitude. The first of these terms is literally defined as "breadth, width, extent from side to side," and the second is, "properly, length." If, as is asserted, they were, at the time of their adoption, significant of the supposed figure of the earth, they evidently cannot be strictly applicable to the measurement of a *sphere*, to which their present use is only referred; but as time and

"ancient usage" have given them a *fixed meaning*, no inconvenience can result from continuing to employ them. It is more than probable, however, that this misnomer may be justly ascribed to Ptolemy, who fixed his first méridian at the Fortunate Isles, (now the Canaries,) because it was the westernmost limit of the countries known in his time; and as their extent from E. to W. was more considerable than from N. to S., the former received the name of longitude, and the latter that of latitude. In order to secure a uniform manner of expressing longitudes in French geography, Louis XIII. ordered, by an express declaration, that the first meridian should be placed in the Isle of Faroe, the most western of the Canaries. The Dutch fixed their first meridian at the Peak of Teneriffe, a mountain situated in the island of that name, and then esteemed the highest in the world; but the most natural and the most commodious point of departure, with respect to maps of the world, was that of Gerard Mercator, a famous geographer of the sixteenth century, who chose the meridian which passes through the island Del Corvo, one of the Azores, because in his time it was the line on which the magnetic needle suffered no variation.

ANCIENT MEASUREMENTS.

It is necessary to a proper comprehension of ancient geography, that the principal measures used in former times should be fully understood. The true length of the *stadium* in use before the third century of the Christian era, has been the subject of much controversy, which has resulted in the conclusion that there were stadia of different lengths, in different ages, and in different regions. It is pretty well established, however, that the measure of distance in ancient Greece

and her colonies, was the stadium of 600 Attic feet. The exact length of the Attic foot has been recovered from the dimensions of the Parthenon at Athens, which structure is styled by Plutarch "Hecatompodon" (the hundred-footed); and the result is, that the Greek foot was equal to 12·1375 English inches, and hence the length of the stadium would be 606 feet 9 inches. This being the precise length of the foot-race in the Olympic games—the distance between the starting and the winning posts—gave rise to the term "Olympic stadium;" and this is also the precise length of all the stadia of Greece, which are very clearly defined to have consisted of 600 Greek or 625 Roman feet. According to Plutarch, the Roman milliare, or mille passuum, (equal to 5,000 Roman feet,) was little less than 8 Greek stadia. The Roman foot, taken from extant Roman measurements, is equivalent to 11·65 English inches; consequently, the Roman mile was equal to 4,854 English feet, which is equal to 8 stadia, and 25 Roman feet were equal to 24 Greek feet nearly.

The length of these measures in English yards, feet, and inches, is given in the following table :

	YARDS. FT. INCHES.		
Stadium, according to Aristotle's measurement of the earth's surface.....	109	1	2·26992
Mean geographical stadium, by Major Rennell.....	168	1	6
Olympic (the correct) stadium.....	202	0	9
Stadium of $7\frac{1}{2}$ to the Roman mile.....	215	2	2·4
Stadium of 7 to the Roman mile.....	231	0	5·124
The Roman foot (pes).....	0	0	11·649
Roman passus of 5 pedes.....	1	1	10·24
Roman actus of 120 pedes.....	35	2	5·95
Mille passus, or milliare, or M. P.....	1,618	0	0
Persian parasang.....	6,067	1	6
Cubit (Scripture measure).....	1	9	888
Span.....	0	10	944
Hand's Breadth.....	0	8	648
Finger.....	0	0	912
Fathom.....	7	3	562

ANCIENT NOTIONS OF EUROPE.

It is not here proposed to enter into any extended detail in regard to the countries or people of antiquity; and this is rendered the more unnecessary, as the various phases which nearly all of them have assumed at different periods, will be noticed incidentally in other portions of our work. In this division, we shall only cursorily glance at the limited ideas which prevailed in early times, and touch briefly upon what was known as the Europe of antiquity and its two most prominent people.

It has been truly said that "early ancient geography lay in a very narrow compass." Greece and Italy were the extent north and west, and the Indies on the east. The Persian Gulf, the Caspian, the Euxine, and the Mediterranean bounded the countries consecrated in Ancient History, and which extended over 20 degrees of longitude, or about 900 miles, by 12 degrees of latitude, or over 1800 miles. Arabia and Egypt lay to the south-west, and Chaldea bordered on Arabia, south of the Euphrates; Babylonia lay between it, on the Tigris; Assyria was in both; Media to the west, and Parthia to the north; Syria lay to the west, and its extent was but 400 miles long, and about 100 wide. The priests taught that the Temple of Apollo at Delphos was the centre of the world; beyond the Archipelago and the Levant, was all fable; and they believed that the whole plain of the earth might be viewed from any very high mountain! A volume of no circumscribed dimensions might be filled by a mere enumeration of the vague and absurd teachings of this reputedly infallible class; but as we have

"metal more attractive" for our readers, we shall spare them any further details of the ignorance and stupidity which generally prevailed, and confine ourselves to facts of more positive value.

ANCIENT EUROPE.

EUROPE (Εὐρώπη) occurs for the first time in the Homeric Hymn to Apollo, where it does not indicate the continent, but simply the main-land of Hellas proper, in opposition to Peloponnesus and the neighboring islands. Herodotus is the first writer who uses it in the sense of one of the divisions of the world, and he considers it to be derived from Eurōpa, the daughter of Agenor, king of Tyre, although he does not seem perfectly satisfied of the fact. Another learned author asserts with some confidence that the "continent of Europe derives its name from the worship of Eur-op, the *Serpent of the Sun*;" while Professor Anthon, in our day, regards the name as of Phœnician origin, denoting the "Evening Land"—that is, the land of sunset or gloom, in opposition to Asia, the "Land of Light."

In earlier times the River Phasis was usually supposed to be its boundary, and sometimes even the Araxes and the Caspian Sea; but at a later period the River Tanais and the Palus Mæotis were usually regarded as the boundaries between Asia and Europe. The north of Europe was little known to the ancients, but it was generally believed, at least in later times, that it was bounded on the north by the Frozen Ocean. Ptolémy's boundaries are in brief: N. by the Northern Ocean, W. by the Atlantic, S. by the Mediter

anean, and E. and S. E. by the River Tanais (now Don), the Palus Mæotus (Sea of Azof), the Pontus Euxinus (Black Sea), the Propontis (Sea of Marmora), the Hellespont (Dardanelles), and a part of the Ægean.

Not all, nor even the greater part of the country lying within those several points was then accurately known, though the boundaries given above demonstrate that, except upon the N., they must have had a generally correct notion of its extent and limits. The strict and accurate acquaintance of the Greeks and Romans extended hardly beyond the limits of the Dneiper and Dwina on the E., and the southern borders of the Baltic on the N. The rest was vague conjecture and surmise, concerning vast islands extending in the northern ocean, and to which they gave the name of Scandinavia; and of impenetrable forests on the E. and N. E., to which they gave the indefinite, and, as applied by them, unmeaning titles of Scythia and Sarmatia. Some intercourse they had, moreover, with the coasts of Cimmerian Bosphorus, the Straits of Caffa, and the Paulus Mæotis. The rivers, and even the mountains of this continent, notwithstanding the Alpine chain and the elevation of Mount Blanc, are on a diminutive scale in comparison with those of the other continents; and Malte-Brun observes that the whole peninsula would hardly be sufficient for the basin of one great river like the Nile. But it is well understood that the whole of the country now known as Europe was not originally included in that designation. The Romans gave to that part of the coast which lay opposite to them the name of Africa, which only by gradual extension, came at last to signify the whole of the vast peninsula which now bears that name. The same was equally the case in regard to Asia; and from

parts contiguous to Europe the name extended over the larger part of the world of the ancients. On the shores of the Propontis, a portion or region of Thrace was first denominated Europe, in the opinion of D'Anville, as being the "entrance of Europe, opposite the land of Asia;" but more probably the first called by that name, which it communicated, at an early period, to one whole division of the earth. The capital of Europe, in the limited sense in which, according to this opinion, that title was first applied, was Heraclea, which continued among the Romans of the empire a place of some importance till the removal of the imperial seat to Byzantium, thenceforward Constantinople.

As the inhabitants of each country will be noticed more fully when treating of their political geography, we shall now confine ourselves to two races who figured largely in the affairs of Europe—the Goths and Vandals.

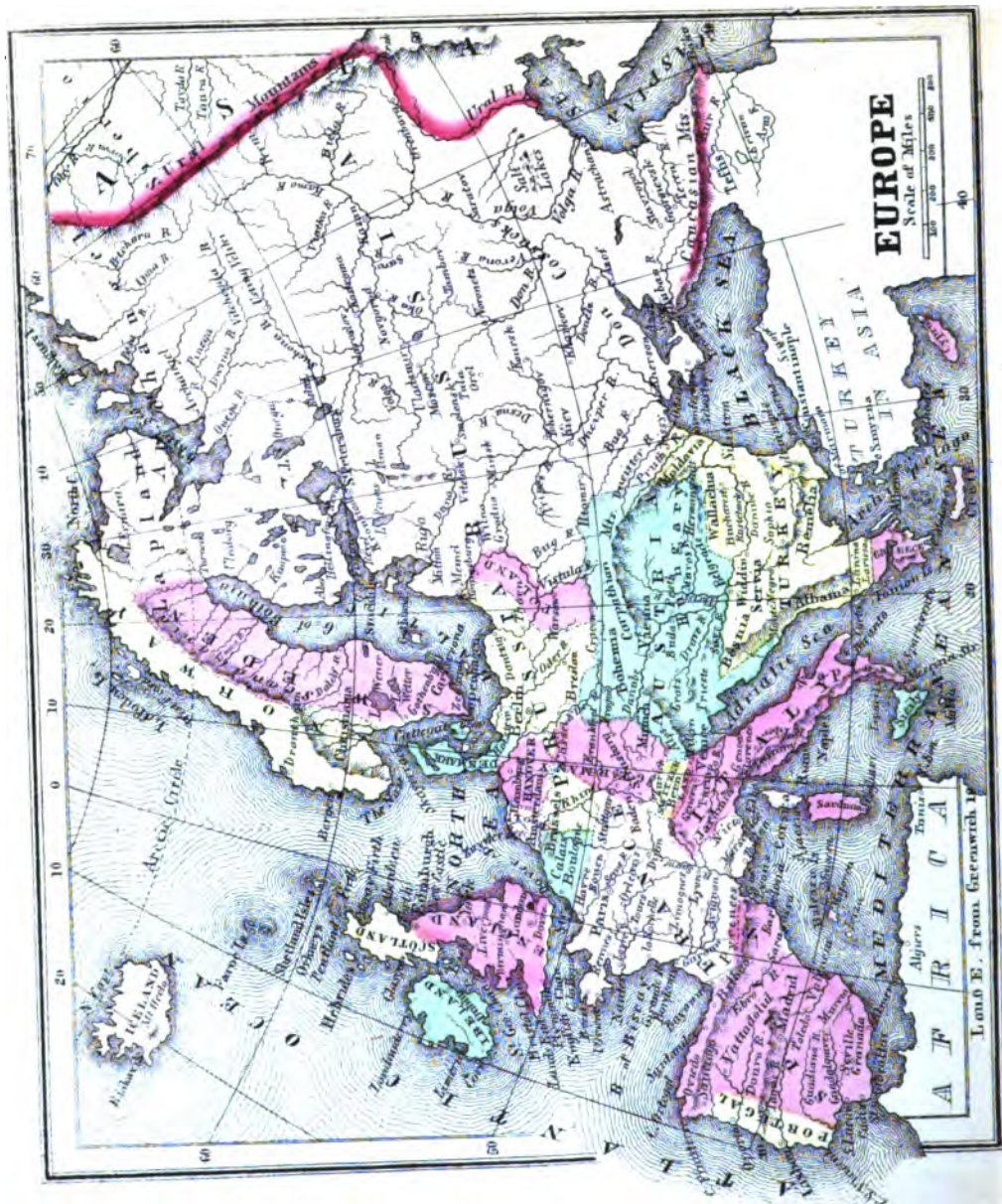
The most ancient records and traditions refer the first settlement of the Goths in Europe to Scandinavia, where their name is still extant in that of the extensive tract of country between Sweden proper and the kingdom of Norway. This region, separated by a narrow strait from the islands of Denmark, and opposite to Rugen and the coast of Pomerania on the narrowest part of the Baltic, is called Gothland, and was probably the first established seats of the Goths in Europe. Originally one extensive nation, the Goths and Vandals, in the progress of years, became divided, as a consequence of numbers and of frequent migration. From the shores of the Baltic, the first migration of the Goths conducted them through the savage region that intervened to the countries lying on the Euxine Sea. From this sea they next opened themselves a passage to the

southern branch of the Borysthenes, supposed to be the Prypree of the present day, their numbers increasing at each march by the Veneti and Bastarnæ, who united with them in their devastations, allured by their success, or terrified by their irresistible power. The province of Dacia, reduced, but not subdued, by the arms of Trajan, offered but little resistance to the entrance of the Goths, now fixed on its confines; and through this unresisting country, abandoning the Ukraine, they passed, in the reign of the Roman emperor Decius, into the second Mœsia, a civilized province and colony of the empire. The events of this war exalted the character of the barbarians, and struck a fatal blow to the vanity of Rome. The Goths advanced as far as Thrace, defeated the emperor in person on their way, and secured an introduction within the now-defenceless limits of the empire at any future time. Their removal on this occasion was only effected by the payment of tribute, which Rome, still boasting her empire over the world, was content to pay to an undisciplined and half-armed tribe of barbarians. Such was the result of the first descent of the Goths upon the outposts of the Roman dominion, A. D. 252. Diverted from the western territory of the empire, the Goths next turned to the no less inviting regions east. They seized on the Bosphorus, and passing over into Asia, acquired an incalculable booty, effecting the subjugation of all the country through which they passed, and which offered scarcely a show of resistance to their dreaded arms. The kingdom of the Ostro-Goths then extended from the Baltic to the Euxine Sea, and its throne was occupied by Hermanric, one

of their greatest princes, who ruled over an immense number of tribes. The Visi-Goths, at the same time, occupied the banks of the Niester and the German side of the Danube. Before the valor and ferocity of the Huns and Alaric, these once-dreaded conquerors were either prostrated or put to flight; and the barbarians, who had so often sent terror to the gates of Rome, now begged its clemency, suing to be taken under its protection, and received into the empire. The emperor Valens was then upon the throne, and in his reign the Visi-Goths were transported as tributaries and subjects within their ancient limits, which had not yet receded from the Danube and the Rhine. Established in Mœsia, and for a time beyond the fear of the Sarmatians, the Goths soon began to forget their allegiance, and to desire, if not to enjoy, their old independence. The next Gothic war was conducted, therefore, within the boundaries over which the Roman emperor pretended to rule; and the conflict was no longer for the integrity of the empire, but for its existence.

The Vandals were a barbarous people of the northern parts of Germany, connected in the remotest ages with the Goths, but early separated from them, and divided into the principal hordes of Heruli and Burgundians. The Vandalic tribes, on the invasion of the empire by the Goths, re-united with those barbarians, and took part in all the ravages committed by them in the civilized countries of Europe. They fixed themselves, for a time, in Spain, and, crossing over into Africa, were among the first of the Germans who effected the establishment of an empire within the limits of provinces claimed by the emperors of Rome.





EUROPE

Scale of Miles



400

From Greenwich 11°

G E O G R A P H Y

OF THE

E A S T E R N H E M I S P H E R E ;

A N C I E N T A N D M O D E R N .

MODERN EUROPE.

WITH the exception of Oceania, Europe is of less extent than either of the five divisions adopted by modern geographers; yet, as regards all the essential results of civilization, and the intellectual and physical improvement of humanity, it deservedly occupies a higher position than any other portion of the globe. Perhaps Christianity has had a powerful influence in elevating the character of a great majority of the inhabitants, and in developing those incentives to enterprise and industry which infallibly secure national and individual prosperity. Certain it is, that Europe has emerged from a state of barbarism, and attained its present high position, while many once prominent idolatrous countries and nations have been gradually sinking into decay, and are now but little known, save in the records of the past.

Boundaries.—On the North, by the Arctic Ocean or North Polar Sea; East, by the Ural Mountains, the Ural (or Yaik) River, and the Caspian Sea; South, by the Caucasus Mountains, the Black, Marmora, and Mediterranean Seas; and West by the Atlantic Ocean. Cape Nord-

kyn, in lat. $71^{\circ} 6' N.$, is the northernmost point of mainland, and Cape Matapan (lat. $36^{\circ} 17'$, which terminates the Morea,) and Punta de Tarifa (lat. 36° , in the Strait of Gibraltar,) are the southernmost points of the continent. In these boundaries, we have followed the lines generally adopted by geographers of the highest character; but it may be proper to remark that the East boundary is still an "open question," which will continue to afford matter for discussion until the Ural region has been more thoroughly explored. At present, no decisive line of separation has been established between the E. and W., either by nature or political power; and the line which separates Russia from Siberia lies much farther east, at the River Tobol, and not in the Ural.

Situation and Extent.—Europe is composed externally of various islands and peninsulas, each naturally independent of the other; among the most important of which are the Scandinavian Peninsula, Jutland, and the Danish Islands, the British Islands, the Iberian peninsula, or Spain and Portugal, and the Peninsulas of Italy and of

Greece. Iceland, too, has generally been reckoned a part of Europe, from the fact of its having been colonized by Europeans, long anterior to the discovery of America, to which it unquestionably belongs. It extends, in longitude, from $9^{\circ} 28'$ W. to $60^{\circ} 36'$ E.; its greatest breadth from N. to S., or from Cape Matapan to North Cape, is 2,400 m.; and its greatest length (from Cape St. Vincent to Ekaterinburg) is 3,400 m.: comprising an area (if Caucasus be taken as the S. E. limit towards Asia) of 3,800,000 sq. m.

Name and History.—We have already given the idea of the ancients relative to the derivation of the name, but more modern, and perhaps better authorities, derive it from the Greek words *εὐρύς* (*broad*), and *ωρ* (the root of the verb “to see” or “view”), attributing to the inhabitants of the small Grecian islands the honor of having bestowed a name on this portion of the world. The latter supposition is probably nearest the truth, as the Greeks were the first to visit and behold the illimitable prospects afforded by the continent, so different from the views to which they had been previously accustomed.—The history of Modern Europe commences at Rome, as far back as the early centuries of the Christian era, when the Romans, having subdued all of W. and N. Europe as far as the Baltic, turned their attention to the promotion of intercourse in various ways, especially by the construction of good roads on a grand scale, and advanced civilization by their literature and their laws. The Northmen (maritime adventurers of Jutland and Norway, including Danes and Anglo-Saxons) became conspicuous for their enterprise and prowess, while the Roman empire was rapidly declining, and they finally invaded England and West France, where they became firmly established. With them originated the

feudal system, by which the tenure of land was made to depend on the condition of military service; but this system, instead of insuring reliable soldiers, only created turbulent vassals, and was eventually superseded by that of standing armies. This change, however, though well suited to the purposes of inordinate ambition, was found unfavorable to liberty, to morals, and to public economy; and hence the wars and revolutions of the last and present centuries. Yet its manifold evils have resulted in lasting benefits to other nations: for it undoubtedly led to that colonization which has proceeded from the W. of Europe over the whole earth, carrying with it a cultivated language, a ripe literature, useful arts, enlightened sentiments, and Christian philanthropy.

Political Divisions.—These embrace various forms of government, principally imperial and kingly, with the exception of Russia, Austria, Turkey, the Two Sicilies, the Roman States, and the Grand Duchy of Tuscany, which are absolute monarchies. The empire of France is a constitutional monarchy, with senate and legislative body. The kingdoms in which the form of government is a limited monarchy, with legislature of two chambers, are Great Britain and Ireland, Prussia, Portugal, Holland, Belgium, Bavaria, Hanover, Saxony, Wurtemberg, Sardinia, and Greece. The kingdoms of Spain, Sweden and Norway, and Denmark, are each a limited monarchy, with a legislature. Most of the smaller States of Germany (styled Grand Duchies, Duchies, Principalities, etc.) are limited monarchies or sovereignties, with one or two chambers. The Republics are: Switzerland, a confederation, with a diet; Andorre, with two syndics and a council; San Marino, with a senate and council; and the Ionian Islands, with council and chamber, under the protection of Great

Britain. The four free cities of Germany—Bremen, Frankfort, Hamburg, and Lubec—have each a senate and assembly.

Mountains—These form several distinct groups, or systems, materially differing in geological dates, and capable of being considered as a whole, only from that point of view which discloses their combined influence on the climate, physical character, and capabilities of the continent around them. The Scandinavian Mountains, running through 13 degrees of latitude (58° to 71°), extend from the Polar Sea to the S. point of Norway, about 900 miles, and successively bear many names—as first, descending from the N., the Lapland, the Kiölen, the Dovrefield, the Sognafield, and Hardangerfield. Skagtölstind, in Sognafield, (lat. $61^{\circ} 24' N.$) and Sneehätten, in the Dovrefield, (lat. $62^{\circ} 20' N.$) are the highest summits of the chain—the former being 8,390 ft., and the latter 8,115 ft. The mountains in the British group, although they seem to lie in parallel courses, as if they formed parts of one system, are neither so simple and uniform in their geological character, nor so elevated as those of Norway. There are no traces of volcanic rocks in Scandinavia; but on the W. side of Scotland and N. shores of Ireland basalts and trap-rocks are widely spread, and appear to have proceeded from a source lying between—perhaps uniting—the two countries, and now “in the deep bosom of the ocean buried.” In France, the mountains of Auvergne extend about 80 miles, from N. to S., separating the basins of the Loire and Garonne, and forming a table-land 3,500 ft. high, from which rise the peaks of Puy de Sancy and Cantal—the former 6,188 ft. and the latter 6,093 ft. The Cévennes, ranging from 3,000 to 5,000 ft., are E. and S. of this volcanic mass, and extend about 180 miles; the N. portion running

N. and S. with the Rhone, and the S. portion, bending to the S. W., approaching the Pyrenees, from which it is separated by the depression through which passes the canal of Languedoc, uniting the Mediterranean with the Atlantic. The Jura mountains, which form a barrier between France and Switzerland, extend N. E. and S. W. about 200 miles, with an average elevation of 3,700 ft., with the exception of Molesson, which reaches 6,588 ft. The Vosges rise on the W. side of the Rhine, and form a chain of 120 miles in length from N. to S., with a mean height of 2,650 ft. The Pyrenees, by which France is divided from Spain on the S., is a narrow chain, 250 m. long and 50 broad, extending in an E. N. E., W. N. W. direction, from the shores of the Mediterranean sea to those of the ocean: the highest point, La Maladetta, is 11,168 ft., and there are several other elevations which exceed 10,000 ft.; and a large area of the higher portions are covered with perpetual snow. Granite, overlain with limestone, is the basis of this chain, which is separated on the S. from the elevated plain of the Spanish Peninsula by the valley of the Ebro. The elevation of this great plain or table-land ranges from 2,200 to 2,800 ft., and has a superficial extent of about 90,000 square m., gradually descending on the W. towards Portugal, but presenting an abrupt steep or line of cliffs, with the characters of an ancient sea margin, on the E. towards the provinces of Catalonia and Valencia. On the N. and S. this plain is bounded by chains of mountains running E. and W., between which lie other chains, ranging from N. E. to N. W., the first of which is about 8,500 ft.; the second, the Guadarama, separating the valleys of the Douro and the Tagus, is 8,200 ft. at its highest point (the Pefallara), and is visible from Madrid—its W. extremity be-

ing known as Sierra d'Estrella, the fourth is the Sierra Guadalupe, between the Tagus and the Guadiana, about 5,100 ft. The Sierra Morena is between the valleys of the Guadiana and Guadalquivir, and its highest point (the Cumbre de Aracena) is 5,380 feet. The fifth chain, the mountains of Granada, the highest part of which is called the Sierra Nevada, bounds the table-land on the S., and exceeds the Pyrenees a little in height. The Alpujarras (9,000 ft. high) extends between the Sierra Nevada and the sea on the S.—The Alps stretch through four degrees of latitude (44° – 48° N.) and twelve degrees of longitude (5° – 16° – $30'$ E.), from the mouth of the Rhone to the plains of Hungary, and are the highest mountains in Europe—Mont Blanc being 15,810 ft. above sea-level, and Mont Rosa, 70 m. E., 15,200 ft.—and the average height between the summits of these two averaging 11,000 ft. Geologists divide the Alps into two distinct chains, supposed to be of different ages. The most western (the Maritime) strike S.S. W. to N.N. E., and the principal chain (High Alps) stretch W. S. W. to E. N. E. They are bounded S. by the valley of the Po; N. by that of the Danube, and some of the Rhine's affluents; W. by that of the Rhone; and E. by the Illyrian chain.—The Apennines, constituting the central ridge of the Italian Peninsula, are about 600 m. in length, and vary from 20 to 60 m. in breadth. Monte Corno, in lat. 42° – $27'$, is the highest point, being 9,519 ft. The Euganean Hills, near Padua, the Albanian, near Rome, and Vesuvius, at Naples, are all of volcanic origin, and quite distinct from the Apennines. The groups which form the island of Sicily may be classified with them, but volcanic Etna must be considered part of the Apennine system.—The Dinaric or Illyrian Alps, whose highest point is

6,000 ft., branch off from the high Alps at the head of the Adriatic Sea, in a direction parallel to that of the Apennines; and, after following this line about 200 m., they are merged in the Balkan, which extends to the Black Sea, and separates the Peninsula of Greece from the rest of Europe. The Despoto-Dagh runs S. and parallel to the Balkan, and the E. portion rises, 8,240 ft. Pindus, still further S., strikes to the S. E., and forms the central ridge of the Grecian Peninsula; its highest point (Liakhura) exceeds 8,000 ft., and Mount St. Elias, in the Morea, rises 7,829 ft.—Several groups and chains of mountains N. of the Alps extend E. in Germany, and separate the basin of the Danube on the N. from the basins of the rivers flowing into the North and Baltic Seas; the Hartz are at the sources of the Weser, and S. of this group are the Thuringerwald. To the E., the Krapatski or Carpathian chain attain in several places an elevation of 8,000 or 8,500 ft., and encloses the great plain of Hungary. The Ural Mountains, regarded as the boundary between Europe and Asia, extend N. and S. from lat. 49° to 67° , but are not habitable N. of 60° : the chain is generally low but its highest summit (the Konjakofskoikamen in lat. 60°) is 5,397 ft.

Volcanoes.—Etna, on the E. coast of Sicily forms nearly an isolated cone, having the Mediterranean on the E., and the rivers Alcantara and Giarretti on the other sides. Its base covers an area of nearly 90 m. in circumference, and its highest summit (lat. 37° – $43'$ – $31''$ N., long. 15° E.) is 10,874 ft. above sea-level. There are records of about 60 eruptions of this mountain, the first being in the year 476 B. C., and the others at different periods from that time until 1832. On the last occasion, the stream of lava was 18 miles in length, 1 mile broad, and 30 ft. high—

overrunning cultivated fields, and threatening the town of Bronte with destruction. At the foot of the crater 9,770 ft. above the sea, is a building called the "English House," (probably the highest inhabited place in Europe,) which is constantly covered with snow, except from the middle of June till August.—Hecla, on the S. W. coast of Iceland, (lat. $63^{\circ} 59' N.$, lon. $19^{\circ} 42' W.$) is 5,110 ft. above sea-level, and is surrounded by many higher mountains. From A. D. 900 to the present time 43 eruptions are recorded, the last commencing Sept. 2, 1845, and lasting till April 6, 1846: on the 23d of November the torrent of lava extended 2 m. from the crater, and was one mile in width and from 40 to 50 ft. in depth. Vesuvius rises out of a fertile plain on the E. side of the Bay of Naples, its crater being in lat. $40^{\circ} 49' N.$ and lon. $14^{\circ} 26' E.$ It is 3,948 ft. above the sea, and its circumference, including Monte Somma on the land side, is about 8 m. Its first recorded eruption was in A. D. 63, when an earthquake damaged many of the surrounding cities. From that time until 1850 various eruptions have occurred, several of them extremely violent; but the most disastrous was that of 79, which buried the cities of Herculaneum, Pompeii, and Stabiae in lava and ashes. At that time Pliny the Elder was commander of the Roman fleet stationed at Misenum, and his anxiety to examine more closely this extraordinary phenomenon induced him to sail for Stabiae, where he landed and perished.

Plains.—Western France, Western and Northern Belgium, Holland, the N. provinces of Germany and parts of Denmark and Russia, are embraced in the great plain of Northern Europe, which commences at the N. foot of the Pyrenees, and terminates in the E. at the Ural. Although some parts of this plain (particularly that portion

extending from the Scheldt through Holland, Bremen, Ditmarsh, Hanover, and the N. provinces of Prussia,) are covered with heath and brushwood, it is generally a low sandy level, occasionally below the level of the sea or rivers, and protected from inundation by strong dykes, or converted into marsh where most exposed to submersion. European Russia is mostly a plain, with slight undulations, having a superficial extent equal to all the rest of Europe. The elevations are scarcely perceptible, owing to its vast extent; yet the ridge of Valdai, which separates the basins of the Volga and Dneiper, is about 1,200 ft. high. There are also two other extensive plains—that of Bohemia and that of Hungary—the latter having an area of 40,000 sq. m., the greater part of which is perfectly level.

Rivers and Lakes.—The Ebro, at the S. foot of the Pyrenees, runs parallel to these mountains, but the other large rivers of the Spanish Peninsula run, like the mountain chains which confine their basins, in a direction parallel to the High Alps, from whence some of the largest rivers have their sources, as the Danube, the Rhine, the Rhone, and the Po. A small portion of the Volga is derived from the heights of the South Ural, but its chief sources are little more than 1,000 ft. above the sea, and it drains an immense extent of country, with so moderate a fall that its channel is always full. The following are the names and lengths of the principal rivers: Those flowing into the Black Sea, including Azoff, are—the Danube, 1,630 m. † Dneiper, 1,200; Don, 1,100; Dneister, 700; and Kouban, 480: into the Caspian Sea—the Volga, 2,200; Ural, 1,150; and the Terek, 300: into the Baltic—the Neva, 46; Navoa, 400; S. Dina, 550; Niemen, 400; Vistula, 630; and Oder, 550: into the White Sea—

the Mezen, 480; Dwina, 760; and the Onega, 380: into the Mediterranean, the Rhone, 490; Ebro, 420; Xucar, 250; Po, 450; Adige, 250; Tiber, 210; Arno, 210; and Maritza, 320. The Petchora, 900 m., is the only great river flowing directly into the Arctic Ocean. The Atlantic receives from Norway the Glommen, 400 m., and from Sweden the Gotha, both of which rise in the Scandinavian Mts. By the North Sea it receives the Elbe, 690 m., and Weser, 380; by the German Sea, the Rhine, 760, and the Meuse, 550; by the English Channel, the Seine, 430; in the Bay of Biscay, the Loire, 570, and the Garonne, 350: and from the Spanish Peninsula, the Minho, 200; Douro, 460; Tagus, 510; Guadiana, 450; and Gaudalquiver, 290.—On the N. side of the Alps is a chain of lakes, extending through Switzerland and the Tyrol, and along the S. side through Lombardy and Styria. The Scandinavian lakes, extending across Sweden from W. to E., commence at the S. termination of the mountains; and a number of lakes on the E. side of the Baltic stretch in the same direction across Finland, on the borders of Russia.

Islands.—The principal are the British Islands; Sardinia, Corsica, Sicily, Candia, the Ionian, the Balearic, and several groups in the Mediterranean Sea; Nova Zembla, the Danish, and other islands in the Arctic Ocean; the Lofoden Islands; Iceland; the Farøe, Shetland, Orkney, and Hebrides groups; and many others, of less extent.

Climate.—Many circumstances tend to render the climate generally genial—not subject to those extremes of heat or cold by which countries adjacent to the equator, or near the polar regions, are affected. Among those are—First, the proximity of the Atlantic and Arctic Oceans on the W. and N. frontiers; second, the vast level plains

of E. Europe, unprotected from the north, and only separated from the frozen region of N. Asia by the slight elevation of the Ural Mts.; and third, the extensive basin of the Mediterranean Sea, which receives a constant supply of warmth from the intensely-heated African deserts, and consequently influences the temperature of the countries adjacent to its shores. The mean annual temperature at the following places is exhibited in degrees of Fahrenheit: North Cape, 32; Trondhjem, (Norway), 40; Umeå (Sweden), 35; St. Petersburg, 38; Stockholm, 42; Edinburgh, 47; Kazan, 36; Copenhagen, 46; Dantzic, 45; Dublin, 49; Hamburg, 48; Berlin, 48; Warsaw, 48; London, 50; Peuzance, 51; Prague, 49; Paris, 51; Carlshuc, 51; Vienna, 51; Buda, 51; Bordeaux, 57; Rome, 60; Naples, 60; Lisbon, 61. The W. coasts are generally warmer and more humid than those facing the E., and this difference is accounted for by the difference between the ruling winds—the S. W. being predominant in Western Europe, and prevailing in Ireland nine months of the year, while on the Continent its duration, strength, and temperature decline uniformly towards the E., and finally gives way to a cold and dry N. E. current. The peninsula of Southern Europe—Spain, Italy, and Greece—have little or no rain in summer, while in Ireland the annual average of rainy days is 208. Sweden, too, E. of the Scandinavian range, has scarcely any summer rain; but at Bergen, in Norway, the quantity averages 80 inches annually. The line of perpetual snow is found at North Cape at the height of 2,300 ft. above the sea; in Southern Norway, 5,500 ft.; in the Alps, 9,000 ft.; in the Pyrenees, N. side, 8,300 ft., and S. side, 9,100 ft. The fact of its being lower on the Pyrenees than on the Alps, though the latter are

3° farther N., is attributable to the vicinity of the ocean, by which the intensity of the summer heat is diminished.

Vegetation.—All the cereals which flourish in the temperate zones are successfully cultivated, except in the high northern latitudes and in the elevated sections of the mountain systems. Wheat is raised on four-sevenths of the whole surface, ceasing at 62° N. lat. Barley, rye, and oats are raised on five-sixths of the surface, and the first two ascend to 70°. Maize is not raised beyond 51°. The cultivation of the vines, which occupies about three-sevenths of the surface, begins on the coast of France, in lat. 48°, passes N. of Paris in lat. 49, and extends still farther N. in Germany, where it reaches its northern limit; it is still, however, successful on the Volga, in lat. 50. The orange, lemon, citron, date-palm, sugarcane, and castor-bean flourish on the S. E. shores of the Spanish Peninsula, and also in the S. parts of Italy, Sicily, and Greece. Rice is confined to the Italian Peninsula and a few districts in Greece and S. Russia. Between lat. 48° and 62° is the zone of the oak and beech trees; and beyond 70° vegetation is mainly confined to the fir and birch trees, low flowering shrubs, saxifrages, and lichens—the most valuable of the latter being the reindeer and Iceland mosses.

Zoology.—Cultivation and population have done much towards extirpating wild animals, but bears, wild boars, and wolves, still inhabit the forests and mountains, and the bonasus, or wild ox, is occasionally found in Poland. The reindeer and polar bear are peculiar to the N., and lizards and serpents are only found in the south. In Italy, a few camels are bred in the vicinity of Sienna, and buffaloes are used for draught.—The ass and mule losing their size and beauty N. of the Pyre-

nees and Alps. The various species of domesticated quadrupeds are either native, or were introduced at a very early period. Of the whole number of mammalia, about 180 only 58 are peculiar to Europe. There are about 6,000 species of birds, of which only 503 are native. Naturalists have classified 853 species of fish, with which the seas and rivers abound—210 fresh, and 643 salt-water. The herring, mackerel, cod and salmon fisheries, are principally in the N. seas; the Mediterranean has many species of fish, but no great fishery.

Geology.—The oldest and most extensive range of mountains, the Scandinavian, consists of primary rocks, the original deposited strata still lying horizontal and unbroken, and containing fossils which show their formation to have taken place since the upheaval of the mountains. Analogous strata are found distorted or raised vertically in the W. of England and on the W. side of Ural, showing that the mountains on which they lean have risen since their deposition and also proving the antiquity of the frame-work of Northern Europe, from its W. to its E. extremity. The chain of the Pyrenees is a comparatively recent formation, and it is supposed that the effects of the convulsion by which it was thrown up were very widely felt, and that, in fact, the emergence of a large proportion of the continent from the waters which then covered it, suddenly took place. It is remarkable that the land which first rose above the ocean, still continues to rise: the waters of the Baltic are receding from the shores of Sweden at a uniform rate, while the rise of land is averaging about 5 ft. in a century. The upheaval of the Western Alps and of the High Alps occurred at still more recent and different periods; and although they are the greatest mountains of Europe,

they are unquestionably the youngest, except one inconsiderable chain in Greece, the upheaval of which is attributed to a volcanic action still partially surviving in Etna and Vesuvius.

Mineralogy.—The great metallic deposits are found chiefly at the point of contact of the older sedimentary rocks with those of volcanic origin. Diamonds and platinum are found in Russia; gold and silver in Russia, Hungary, and Transylvania, and the latter metal also in Bohemia, Saxony, Hanover, Turkey, Norway, and Spain; quicksilver is found in Illyria, Spain, and Bavaria; iron, copper, and lead are very abundant in the British Islands, Germany, Norway, and Spain. Iron is also abundant in Russia, Sweden, and France, and is found in Belgium and Italy. In addition to the places named, copper occurs in Russia, Hungary, Sweden, and Turkey, and lead in Illyria, Hungary, Bohemia, France, and Spain. Zinc is found in Great Britain, Belgium, and Germany; tin in England and Spain; coal in the British Islands, Belgium, France, Germany, Russia, Sweden, and Hungary; and salt in Russia, France, Spain, British Islands, Portugal, Germany, Italy, Norway and Sweden, and Greece.

Ethnography.—The West of Europe, from the Alps to the British Islands, was once possessed by the Celts, who probably emigrated from the Highlands of Central Asia. Next to the Celtic comes the Teutonic race, (comprehending the Germans and Scandinavians,) who have long predominated, and have supplied every where, except in Russia, the reigning families. The Scandinavians, Danes, and Norwegians chiefly colonized Ireland and the Färöe Islands, Shetland, Orkney and others of the Scottish Islands; and traces of their presence in Ireland may be discerned even in Ptolemy's map of that island, B. C. 130. To the E. of the

Teutonic race, though sometimes mixed with it, come the Sclavonians, comprehending the Poles, the Chekes or Bohemians, Esthonians, Servians, Croatians—about one-third of the population of Hungary—and the Russians: of this race were the Vends or Veneti, a once powerful nation on the S. shores of the Baltic, but now absorbed in the German name. Venice was founded by an offshoot of this stock, which penetrated to the head of the Adriatic. The E. shores, the Pyrenees, and part of Aquitania were held by the Iberians, of whom the Basques are now the representatives, and the only European race who cannot be traced into Asia. In the S. and S. E. of Europe are the offspring of the Pelasgian stock, and on the W. side of the Grecian Peninsula are the Albanians, probably sprung from the mixed Celtic and Dacian population of the Illyrian Mountains. The steppes N. of the Black Sea were occupied at an early age by Turkish tribes from the vicinity of the Altai Mountains, N. E. of the Himalaya. The Bashkirs, now in the S. Ural, are a Turkish race; as also the Tartars of Kasan, those of Krim, and the Nogays on the Don. The Ottoman or Othman Turks, (so named from their early Sultan, Othman or Osman,) after being settled for ages in Asia Minor, in 1453 took Constantinople, and founded their empire in Europe; anterior to which, a body of Turcomans had forced their way into Macedonia, where their descendants still remain. The fishing and hunting tribes of N. Siberia likewise took part in this Western movement; and the Finns, advancing from the Obi, settled the countries now known as Lapland and Finland. In the seventh century, hordes of the same nation, from the banks of the Irtish, mingled with and led by Turks and Mongols, overrun the valley of the Danube, and estab

lished the kingdom of Hungary. The character of this great Magyar race can not be better illustrated than by the following extract from the speech of Daniel Webster, Jan. 7, 1852, at the congressional banquet given to Kossuth.

"The Hungarian nation has been distinguished from its first appearance in history, for uniting to a passionate love of liberty a scrupulous reverence for law. The Magyars did not enter the plains of Dacia an undisciplined rabble. From the first, they possessed a fixed form of Government, and were distinguished for their subordination to their leaders and their laws. To these habits of discipline, in which the Magyars were trained, to their love of order and regard for law, it is to be ascribed that they did not pass away, like the common hordes of barbarian adventurers, but established a permanent kingdom in the country they invaded. To these qualities, not less than to their courage, is to be ascribed their successful maintenance of their constitutional rights against all the attacks of a power before which the liberties of so many other nations have fallen.

"The ancient institutions of the Magyars were eminently democratic. Their chief ruler was elected by the votes of the people. For the first century after their establishment in the country, he received only the title of Vezér, or leader. In the year 1000, they bestowed the title of King on Stephen, of the family of Arpad, the leader under whose guidance they had entered Pannonia. The power of the King was, however, strictly limited. The consent of the people was necessary to give efficacy to every royal act. The excellent prince who first filled the throne of Hungary had no disposition to infringe the liberties of the people. On the contrary, he endeavored to guard them against the encroachment of future sov-

ereigns. He framed a code of law, founded on the ancient institutions of the Magyars, which have ever since been regarded as of the highest authority. These statutes were drawn up for the guidance of his son Emeric, whom he educated as his successor in the kingdom. The enlightened and humane spirit in which these decrees are composed gives a very high idea of the civilization and political advancement of Hungary at that period. We find in them an express recognition of the principles of universal equality—'*Omnes homines unius sunt conditiones.*'

The princes of this dynasty, (the house of Arpad,) with few exceptions, were just and patriotic kings, who understood the origin and true objects of government, and held their power for the benefit of the people, not for their own selfish aggrandizement. There are traits recorded of many of them, which prove them to have been worthy successors of St. Stephen. "The Republic is not mine," said Geza II.; "It is I who belong to the Republic. God has raised me to the throne in order that I might maintain the laws." In 1222 Andrew II. issued the celebrated statutes known by the name of the "Golden Bull," by which the decrees of St. Stephen were confirmed, and some new laws added to them, designed to secure yet further the liberties of the people. The Golden Bull has been termed a charter of aristocratic privilege. It was so in the same sense that the great charter of English liberties may be called so. The Golden Bull corresponds very closely to the Magna Charter of King John, both in its provisions and as regards the class of persons whose liberties it was designed to protect.

As to St. Stephen, I will not say how he ought to stand as a Christian, but will say that on the political and especially the Royal Calendar, he

ought to be regarded as a saint, and to have a day strongly marked in red letters.

The Welsh are probably descendants of the Cimbri, or Cymry, a portion of which nation, with the Teutones, invaded Italy, and were defeated by Marius about 100 B. C. They subsequently established themselves in Brittany, where the people still speak a language resembling the Welsh.

Language.—The inconvenience arising from diversity of speech is much diminished by the great predominance of the languages of the Indo-European family, which are spoken by nine-tenths of the whole population. The Teutonic, Slavonian, Greek, and Latin, with the modern tongues derived from them, all belong to this family, and may be traced from the Sanscrit (the ancient language of India) and the Himalaya; though perhaps the Slavonian may be more conveniently referred to a cognate tongue—the Lend or ancient Persian. The only ornament of the Celtic now existing is the Gaelic, or Erse, spoken in some districts of Ireland, the Highlands of Scotland, and the Hebrides. The language of the Iberians, the Eskuara, has no discoverable affinity with any other; but the Teutones used the German, including Gothic, Lithuanian, Flemish, Frisian, Anglo-Saxon, &c. The Pelasgians spoke the Greek and Latin, which latter absorbed the Etruscan and other languages of ancient Italy; while the former was the language not merely of the Grecian Peninsula, but of all the islands and Asiatic shores of the *Ægean* Sea. Modern Greek is spoken within a comparatively limited range, and chiefly differs from the ancient tongue in having lost many grammatical inflexions: hence it is

called *Aplo-Hellenic* or *Simple Greek*. The Latin or Roman language was connected with the Greek through the least-cultivated dialect of the latter—the *Æolian*—and contained many words of Western origin. The language of the Magyars of Hungary still retains its resemblance to that of the Ostyaks on the Obi; and that of the Gypsies is evidently of Indian origin, and related to the Pali.

Population.—Recent enumerations (nearly all between the years 1851 and '56) give the result in the several countries as follows: Great Britain, 20,959,477; Ireland, 6,515,794; other British possessions in Europe, 146,951; (total of G. B., etc., 27,621,862;) France, 35,781,628; Spain, 13,705,500, exclusive of 253,000 in the Balearic Isles; Portugal, 3,471,203; Switzerland, 2,392,740; Sardinia, 4,916,084, of which 547,112 on the Island of Sardinia, etc.; Parma, 508,784; Modena, 606,139; Tuscany, 1,817,466; States of the Church, 3,016,771; Kingdom of the Two Sicilies, 9,051,747, of which, 6,843,355 in Naples, and 2,208,392 in the Island of Sicily, etc.; the Empire of Austria, 39,411,309, exclusive of the military; Prussia, 16,935,470; Bavaria, 4,559,452; Saxony, 1,987,832; Wurtemberg, 1,783,697; Hanover, 1,819,253; the smaller Germanic States etc., 6,363,677; the Netherlands (Holland, etc.), 3,433,372; Belgium, 4,548,507; Denmark, 2,296,597; Sweden, 3,482,541, and Norway, 1,328,471; Russia in Europe, 60,122,669; Turkey in Europe, 10,500,000, exclusive of Moldavia, 1,400,000, Wallachia, 2,600,000, and Servia, 1,000,000; Montenegro, about 120,000; Greece, 1,142,227; the Ionian Islands, 232,297; Andorre, 18,000; Monaco, 8,200; San Marino, 7,600.

ANCIENT GREECE.

IN remote times there was no general name for Greece, that of *Hellas* having had various significations at different periods. Originally it indicated merely the district or city of *Hellas* in Thessaly, and at that early period, as we are assured by Thucydides, the common denomination of *Hellenes* had not yet been received in that wide acceptance which was afterwards attached to it; but each separate district enjoyed its distinctive appellation, derived mostly from the clau by which it was held, or from the chieftain who was regarded as the parent of the race. In proof this assertion, the historian appeals to Homer, who, though much posterior to the siege of Troy, never applies a common term to the Greeks in general, but calls them *Danai*, *Argivi*, and *Achæi*. This opinion is supported by Apollodorus, who states that when Homer mentions the *Hellenes*, we must understand him as referring to a people who occupied a particular district in Thessaly; and further observes that it is only from the time of Hesiod and Archilochus that we hear of *Panhellenes*. The name, however, subsequently comprehended the greater part of Thessaly, and finally was applied to the whole of midland Greece, which was called *Hellas* proper, in contradistinction to *Peloponnesus*. After the Persian war, *Peloponnesus* itself was included, and at length (after the Macedonian war) the term was understood as designating every country inhabited by *Hellenes*. The name *Græcia*, originally limited to the district of *Dodôna* in Epirus, was never employed by the Greeks themselves, but was given by the Romans to the whole of the country. As a Roman province, Greece (with the exception of Thessaly, Epirus, and *Acarnania*) was called *Achaia*.

Ancient Boundaries and Divisions.—Its ancient boundaries are variously given by different writers. Scylax, who wrote about the time of the Peloponnesian war, includes under *Hellas* all the country situated south of the *Ambracian* gulf and the *Peneus*; Herodotus extends its limits still further north, by taking in *Thesprotia*, or at least that part of it which is south of the river *Acheron*; but it is more usual to exclude *Epirus* from Greece Proper, and to place its N. W. extremity at *Ambracia*, on the *Ionian* Sea, while *Mt. Homole*, near the mouth of the *Peneus*, is assigned as its boundary on the opposite side. So far as conflicting authorities can be reconciled, its true boundaries appear to have been—N. by the *Macedonian* and *Ceraunian* mountains, E. by the *Ægean* and *Myrtoan* seas, and W. and S. by the *Adriatic* and *Ionian* seas. This territory was divided as follows: Northern Greece, embracing Thessaly and Epirus; Central or Greece Proper, embracing *Acarnania*, *Ætolia*, *Doris*, *Locris*, *Phocis*, *Bœotia*, *Attica*, and *Megaris*; and Southern Greece, or *Peloponnesus* (now the *Morea*), embracing *Corinthia*, *Sicyonia*, *Phliasia*, *Achaia*, *Elis*, *Messenia*, *Laconia*, *Argolis*, and *Arcadia*.

NORTHERN GREECE.

Thessaly, the largest division of Greece, was bounded N. by the *Cambunian* Mountains, which separated it from *Macedonia*; W. by *Mt. Pindus*, which separated it from *Epirus*; E. by the *Ægean* Sea, and S. by the *Maliac* Gulf and *Mt. Ceta*, which separated it from *Locris*, *Phocis*, and *Ætolia*. The vast plain of Thessaly Proper, drained by the River *Peneus* and its affluents, is said to have been a lake, the waters of which were afterwards carried off through the *Vale of Tempe* by some sudden convulsion, which rent the rocks of

this valley asunder. The Lake of Nessonis, at the foot of Mt. Ossa, and that of Bœbeis, at the foot of Mt. Pelion, are supposed to have been remains of this extensive lake. The Thessalians probably came from Thesprotia, but at what period their name became the name of the country cannot be determined. They were never of much historical importance, and are chiefly conspicuous for their ready submission to the Persians on the invasion of Greece.

Epirus, which signifies "the main land," was so called to distinguish it from Corcyra and the other islands off the coast. It was bounded N. by Illyria and Macedonia, E. by Thessaly, S. by Acarnania and the Ambracian Gulf, and W. by the Ionian Sea. The chief rivers were the Celydnus, Thyamis, Arachthus, and Acheron—the last of which, as poets inform us—and every body knows how reliable poets are—has its source in Tartarus! Its inhabitants were of Pelasgic origin, and divided into several tribes—among them the Chaonia, Thesprotia, and Molossi—the latter claiming their kings to have descended from Achilles, and hence were of Hellenic race. Pyrrhus, the famed conqueror at times of the Romans, was also of this family. About 200 B. C. the Epirotes established a republic; but in consequence of the support which they afforded Antiochus and Perseus, the Romans destroyed 70 of their towns, and sold 150,000 of the inhabitants into slavery. Dodona, the seat of the most ancient oracle in Greece, was founded by the Pelasgi, and, according to Herodotus, was the first station in Greece to which the offerings of the Hyperboreans were dispatched. They arrived there from the Adriatic, and were thence passed on to the Sinus Maliacus. Ancient Epirus has become modern Albania.

CENTRAL GREECE, OR GREECE PROPER.

Acarnania was bounded N. by the Ambracian Gulf, E. by the Achelôus, the Corinthian Gulf, and the Ionian Sea. Its principal cities were Stratus, the largest city of the district, and Actium, founded by Augustus on the promontory of the same name, where there formerly was only a port with a temple (of Apollo).

Ætolia was bounded N. by Thessaly and Epirus, E. by Locris and Doris, S. by the Corinthian Gulf, and W. by the Achelôus. The capital city, Thermon (also Thermus), was the seat of the Ætolian league (Panætolium).

The rugged little state of Doris was bounded N. by Thessaly, W. by Ætolia, S. by Locris, and E. by Phocia. It contained four cities, named the Dorian Tetrapolis.

Locris was divided into two districts, inhabited by three tribes: that on the Corinthian Gulf, which was surrounded by Phocis, Doris, and Ætolia, was occupied by the Ozolian Locrians, a savage predatory tribe. In the rest of the district on the Eubœan Sea and the Malian Gulf was the Opuntian Locrians, with their capital Opus; and northwards from these, as far as Thermopylæ, were the Epicnemidian Locrians, so named from the mountain Cnemis, at the foot of which stood the city of Cnemides.

Phocis was celebrated for its city of Delphi, on the south-western declivity of Parnassus, between its two principal peaks. Here was the "infallible" oracle of Apollo Pythius, so renowned even among foreign nations. Its responses were delivered by the Pythia, seated on a golden tripod, placed in the temple over the prophetic cavern. In the court which surrounded the temple were votive offerings of various nations. Individual cities had

also each their own treasury. The reputation of the oracle was further increased by the choice of Delphi as the place of meeting for the Amphictyonic Council, and the celebration of the Pythian games.

Bœotia occupied the fertile basin formed by the mountains of Parnassus, the Helicon (the seat of the Muses), with its numerous springs; the savage Cithæron, and the rugged rocky chain of Parnes; and comprehended within itself several plains of greater or smaller dimensions—a circumstance which rendered Bœotia the battle-field of Hellas, as Arcadia was that of the Peloponnesus. The more considerable of the Bœotian cities formed a confederacy under the Hegemony of Thebes. The acropolis of Thebes was founded by the Phœnicians under Cadmus, and thence called Cadmea. It was destroyed by Alexander the Great (335), and restored by Cassander. Orchomenus, another city, formed with its district, which in the earliest times comprehended the whole of western Bœotia, a distinct country, not attached to Bœotia until after the Trojan war. Its inhabitants were called Minyæ or Minyans (also Phleggyans). There were six other cities, viz: Platæa, Thespizæ, Tanagra, Haliartus, Coronea and Chæronea.

Attica was bounded N. by Bœotia, W. by Megaris, S. by the Saronic Gulf, and E. by the Ægean Sea. It originally constituted four Phylæ; from the time of Cleisthenes ten, and at a still later period twelve, which were subdivided into demi, the number of which amounted at one time to 174. Athens consisted of two principal parts, viz: the city, and its three ports, Phaleron, Munychia, and Piræus, which were united to the city by two long walls. After its demolition by the Persians, Themistocles rebuilt Athens in a more magnificent style, surrounded it with walls, and

joined it to the Piræus. The city, which stood in the plain Cécropia, on the banks of the River Ilissus, consisted of the *Acropolis* (called also Cécropia), on a steep rock, crowned with the Parthenon, or temple of Minerva, built entirely of white Pentelic marble (by Ictinus and Callicrates), and approached by a portico termed the Propylæ (erected by Mnesicles). In this temple stood a statue of Pallas Athene (by Phidias), thirty-seven feet in height, and carved in gold and ivory. On the frieze was a model in relievo of the Panathenaic procession, and in the tympanum the victory of Athene over Poseidon, exquisitely represented in a group of colossal statues. On the side of the Propylæ stood a bronze statue, seventy feet high, of Athene Promachus, cast by Phidias. In the western quarter of the city (lower town), on an elevation, was the Pnyx, where the assemblies of the people were held; and on another eminence, the Areopagus, from which there was a thoroughfare through the street of Hermes, by the Poikile (adorned with frescoes of the battle of Marathon by Polygnotus) to the new Agora; and thence along the Tripod street, by the Prytæneum (where ambassadors and meritorious citizens were entertained at the public cost), to the great theatre of Dionysia. In the south-eastern quarter of the city, afterwards called Hadrian's town, stood the Olympeum, or temple of Zeus, with a colossal statue of the god, in gold and ivory. *Without the city* were three Gymnasia, viz: the Academy where Plato taught; the Cynosarges; the Lyceum, where Aristotle used to walk with his disciples (hence the term Peripatetics). On the other side of the Ilissus was the stadium (of Herodes Atticus) for public games. Attica embraced five other important places, to which we can only make a passing allusion, viz: Eleusis, with its temple and

mysteries of Demeter ; Sunium, a fortress on the promontory of the same name, with the temple of Athene Sunias, of which the ruins are still visible ; Marathon, on the plain of the same name, with monuments (still in existence), erected in commemoration of the battle in 490 ; Phyle, where Thrasybulus assembled the opponents of the thirty tyrants ; and Decelea, fortified by the Spartans in the Peloponnesian war.

Megaris was bounded N. by Boeotia, E. by Attica and the Saronic Gulf, S. by the Isthmus of Corinth, W. by the Corinthian Gulf. In the city of Megara, which at an earlier period belonged to Attica, the Dorians, on their return from the war against Codrus, founded a colony.

SOUTHERN GREECE (NOW THE MOREA).

Corinthia, with the city of Corinth (formerly Ephyra) was bounded N. by Megaris and the Corinthian Gulf, S. by Argolis, W. by Sicyonia and Phliasia, and E. by the Saronic Gulf, at the foot of a steep mountain, on which stood the Acro-Corinthus, the strongest fortress in Greece, and key of the Peloponnesus. The situation of Corinth rendered it the emporium of the maritime traffic, not only between northern and southern Greece, but between Italy and Asia, as well as the chief seat of manufacturing industry and the arts (the Corinthian order of architecture, vases, and Corinthian bras). The successful cultivation of these various branches of commerce rendered it the most populous (300,000 inhabitants) and wealthy, but at the same time the most dissolute, of all the Grecian cities. It was demolished (with the exception of the citadel) by Mummius in 146, and rebuilt by Caesar. On the isthmus stood a temple, a stadium, and a theatre of Neptune, where the Isthmian games were celebrated.

Sicyonia, with the city of Sicyon (also Ægialia), near the coast of the Corinthian Gulf, was also famous for Grecian manufactures and works in metal, as well as for painting and sculpture.

Phliasia was a small province, bounded N. by Sicyonia, W. by Arcadia, E. by Cleonæ, and S. by Argos. The city of Phlius, originally inhabited by Argives, with its little territory, formed an independent state.

Achaia extended from Sicyonia along the northern coast of Peloponnesus. Here, as in all the settlements of the Ionians, we find a confederacy (of twelve hamlets), with a democratic constitution. Helice, the ancient capital, was engulfed in 373 by one of the earthquakes so frequent on this coast. Its territory fell into the hands of the neighboring state. Patræ (now Patras) was a sea-port of this province.

Elis (also Eleia) was divided by mountains into three portions, viz : 1, Elis *proper*, or the "hollow," with the capital Elis, a city without walls, and its port of Cyllene. 2, Pisatis, with Olympia. This was not, strictly speaking, a town, but ranked as such on account of the multitude of buildings, groves, altars, and places for public games and combats, belonging to the temple of Zeus Olympius, and occupied at the Olympic games. In a grove of olives (named Altis) stood the temple, with a statue of the god in a sitting position, carved by Phidias, in gold and ivory, and reaching to the ceiling of the temple. The length of the stadium (one-fortieth of a geographical mile) was the Greek standard measure of distance. 3, Triphylia, with Pylus.

Messenia (also Messene) was bounded E. by Laconia, N. by Elis and Arcadia, and S. and W. by the sea. Its chief cities were Pylus (now Navarino), the residence of Nestor, with a harbor

protected by the island of Sphacteria; Ithome, a fortress on a high hill, at the foot of which Epaminondas built Messene; Ira, defended for eleven years by Aristomenes.

Laconia was bounded, in the more confined sense, by Messenia, Arcadia, Argolis, and the sea. From the second Messenian war to the battle of Leuctra, Messenia was reckoned as belonging to Laconia. Here was the famous city of Sparta or Lacedæmon, occupying several eminences on the declivity of Taygetus and the banks of the Eurotas; without walls, until it was fortified by the tyrant Nabis. Also, Helos, on the low lands at the mouth of the Eurotas, whose inhabitants were reduced to the condition of bondsmen by the Spartans.

Argolis had its boundaries changed on several occasions, and they were contracted or expanded according to circumstances—sometimes embracing the whole Peloponnesus, and then again being confined to an inconsiderable district. For a long time it formed one undivided dominion; but about the period of Acrisius it was divided into the kingdoms of Argos and Tirynthus; to which, under Perseus, the principality of Mycenæ was added. After being consolidated, Argos, its capital, and the most ancient city in Peloponnesus, (founded by Inachus in 1856 B. C.), was surrounded by walls built of massive blocks of stone—a mode of building generally attributed to the Cyclops—remains of which are still found. After Argos, the most important cities were Nauplia (near what is now called Napoli di Romania), the sea-port of Argos; Mycenæ, of which the Cyclopiæan walls, the lions' gate, and what is called the treasury of Atreus, still remain, where was the residence of Agamemnon, Tiryns, and Lerne. Nemea was not a city, but merely the name of a valley, and of the tem-

ple of Zeus, which stood there. There were three smaller districts, called Hermione, Troæzene, and Epidaurus.

Arcadia, from the most ancient times the pasture country of Nomadic herdsmen, never formed a whole, politically speaking. Its chief cities were Mantinea, conspicuous for the wisdom of its institutions, and for the battles fought in its territory; Tegea, which, with its district (Tegeatis), formed one of the most considerable cantons; and Megalopolis, the most modern and largest, founded by the advice of Epaminondas in 371 B. C., and peopled by the inhabitants of the circumjacent hamlets: it was destroyed by the Spartans under Cleomenes, and only partially rebuilt, with the largest theatre in Greece. It was noted as the birth-place of Philopœmen and Polybius.

DEVIATIONS FROM THE ABOVE DIVISION.

Thracia was in earlier times the name of the vast country bounded N. by the Danube, S. by the Propontis and the Ægean, E. by the Black Sea, and W. by the River Strymon and the easternmost of the Illyrian tribes. At a later time, the name was applied to a more limited extent of country: the district between the Strymon and the Nestus was added to Macedonia by Philip, and was usually called Macedonia Adjuncta. Under Augustus, the part of the country N. of the Hæmus was made a separate Roman province, and called Mœsia; but the district between the Strymon and the Nestus had been previously restored by the Romans. Herodotus says that, next to the Indians, the Thracians were the most numerous of all races, and, if united under one head, would have been irresistible.

The part of Thracia where Constantinople lies is now called Rumuili, (the land of the Romans);

and here also is Adrianople, (Turkish Edrene), situated upon the small stream, Maribza. It was formerly called Hadrianopoli, from its founder, the Emperor Hadrianus, and was the residence of the Turkish sultans from the year 1360 A. D., to the conquest of Constantinople. Adjacent is Enos, where Xerxes reviewed his army; and Abdera, notorious for the stupidity of its inhabitants, and as the birth-place of the celebrated philosopher Democritus.

The land of the Mysians, which people had emigrated from Asia, was called Moesia by the Romans, and was bounded N. by the Rivers Save and Danube, W. by the River Drina, S. by Mt. Hæmus, and E. by the Black Sea. Moesia and Dacia now form Bosnia, Servia, Bulgaria, and Wallachia.

The country N. of the Danube was called by the Romans Dacia, and inhabited by the Daci, who were, in all probability, the same people that the Greeks called Gæte, and who lived S. of the Danube until Philip of Macedonia compelled them to remove to the N. bank of that river. When Dacia was subject to the Romans, it extended N. to the Carpathian Mountains, W. to the River Theiss, and E. to the Pruth, (formerly Poros, or Pyretos).

Macedonia, after the conquests of Philip, was extended E. to the river Nestus and Mount Rhodope, S. to the Ægean Sea (the peninsula Chalcidice was before a part of Thracia) and to Thessaly, which was separated from Macedonia by the Cambunian mountain chain, and by Olympus, W. to Illyria, and N. to those ridges of the Hæmus chain then known as Scardus and Orbelus, but now named Schartay and Argentara. Illustrious as is the Macedonian name in the annals of war, we find but little else in that country worthy

of particular attention, not even monuments of remarkable architecture. It was not the people, but rather two gifted kings, that made Macedonia renowned.

Salonichi (Thessalonica) is situated on the Sinus Thermaicus, and was once the residence of the Roman Emperors. On the peninsular Chalcidice are the following places of note in ancient days: Potidea, a Corinthian colony; Olynthus, an Athenian colony, which flourished until destroyed by Philip of Macedonia; and Stagira, famed as the birth-place of Aristotle.

Pella, near the rivulet Ludius, the ancient capital of Macedonia, and the birth-place of Alexander the Great, is now called Vodina. Amphipolis was an Athenian colony, situated on the Strymon, with a harbor called Eion, now named Orfan.

During the middle ages, the name of Morea was given to Peloponnesus; to the W. part of Hellas proper, that of Livadia; and to the E. coast that of Albania; while Thessaly was named by the Turks Janinah or Yanina.

Rivers, Lakes, &c.—The principal rivers are furnished, as might naturally be expected, by the extensive provinces of Thrace, Macedonia, and Illyria. In Thrace we find the Helvus, (Maritza), and Strymon (Struma); in Macedonia, the Axios (Vardar), the Erigonous (Kutchuk), the Lydias (Caraismak), and the Haliacmon (Indje Mauro); in Illyria, the Drilo (Drino), the Genusus (Scombi), and the Apsus (Ergent). Some considerable streams flow also into the Ionian Sea, from the mountains of Epirus; such as the Aous (Voionassa), the Aractus, or river of Arta, and still farther S. the rapid but troubled Achelöus (Aspropotamo); in Thessaly, the Peneus (Salembria), takes its rise from Pindus, and, after collecting numberless tributary streams, traverses the famous

gorge of Tempe, and falls into the Gulf of Therme. The Sperchius (Hellada), a river of southern Thessaly, coming from Mt. Tymphrestus, is received into the Maliac Gulf, a little to the north of Thermopylæ. The Cephissus (Mauro) rises in the Phocian mountains, and after flowing through part of that province, and of Bœotia, empties itself into the Copaic lake. The Asopus (Asops) passes through the southern plains of Bœotia, and is lost in the narrow sea which separates the continent from Eubœna. Lastly, the Evenus (Fidari), a river of ancient Ætolia, which falls into the Corinthian Gulf a few miles to the E. of the Achelôus.—The most considerable lakes of Greece are those of Scutari and Ochrida, in Illyria, the Labeatis Paulus, and Lychritis Paulus of ancient geography. In Macedonia, those of Pakinos and Betchik, near the Strymon, answer to the Cercinitis and Bolbe. In Epirus, the Lake of Ioannina is perhaps the Pambotis Paulus of Eustathius. Frequent mention is made, by classical writers, of the Lacus Bœbias (Carlas) of Thessaly. Ancient historians have also noticed some lakes in Acarnania and Ætolia, the most considerable of which was that of Trichonium (Vrachori) in the latter province. In Bœotia the Lake of Copæ has exchanged its name for that of Topolias.

Earthquakes were not uncommon in several ancient districts: they occurred occasionally throughout Laconia, and at one time the proud Lacedæmonians were forced to implore their hated rivals of Athens to assist them in rebuilding the fallen walls of Lacedæmon.—Helice, once a flourishing city, about 12 stadia from the Gulf of Corinth, in one night was laid in ruins, and all its inhabitants destroyed. The buildings were overthrown by repeated shocks, the sea inundated the city, the earth sunk to a great depth, and the tops

of the highest houses were covered with water.—Strabo states that “a plain near Methana, of seven stadia in extent, rose from the bottom of the sea, an igneous vapor exhaled from the ocean, and spread around a sulphureous and disagreeable odor.”—The soil in the island of Melas, or the modern Milo, is hollow and spongy; crystalizations of alum are suspended from the roofs of the caverns, the clefts in the rocks are filled with fragments of native sulphur, warm mineral springs flow in every direction, and a sulphureous vapor rises from all the marshes. Such is the account which Pliny gives of the island, and the accuracy of his description has been confirmed by modern travelers.—The island of Argentera is wholly composed of volcanic matter, and appearances clearly indicate that the small group in the vicinity was at one time the summit of a volcano.

Ancient Inhabitants.—The first inhabitants, or rather those who first obtained some degree of civilization, were known by the name of Pelasgi, and traditions of the Greeks say that they originally came from Asia Minor. This is probably correct, but we have no reliable authority that such a people ever existed in Asia. It appears that they afterwards associated themselves with another tribe under the name of Hellenes, which appellation they received from Hellen, the son of Deucalion. Subsequently they became divided into four different tribes; the Dorians, the Æolians, the Ionians, and the Achæians. According to Homer, the last-named tribe was the most powerful during the Trojan war, but afterwards they were confined to that part of Greece called Achæia. The Ionians dispersed themselves over the coast-land of Asia Minor; while those remaining in Greece only inhabited Attica and little Achæia. The Æolians were lost among the Do-

rians, who emigrated to Peloponnesus, about 80 years after the Trojan war, and became a dominant people of that country.

PRINCIPAL GRECIAN ISLANDS.

Among the Grecian Islands, that which first deserves our notice is Crete (now Candia); it is between lat. $34^{\circ} 55'$ and $35^{\circ} 43' N.$, and lon. $23^{\circ} 30'$ and $26^{\circ} 20' E.$, and is interwoven with mountains, among which the majestic Ida is near the centre of the island. Minos was the law-giver of the Cretans, and he exercised a preponderating sway over the surrounding islands, a great influence upon several states, and, in a measure, extirpated the then existing pirates. Candia, the present capital of this island, was once a very important city. During the times of the Romans, Gortyna was the principal city.

Delos is the smallest, and yet the most famous island of the Cyclades—so called because they form a circle (cyclos) round Delos. This island was formerly looked upon as the centre of the earth, and sacred as the pretended birth-place of Apollo. No children were allowed to be born upon it, nor any dead bodies to be interred. Here were treasured up all the contributions which the Athenians received from their allies for the support of the fleet, as a means of preserving the liberty of Greece. After the ruin of Corinth, and the decay of Athens, it became a very important place of trade.

Paros is renowned for its white marble. Large blocks of it, used for erecting the public monuments in the Greek towns, have remained entire for many ages; the front of the labyrinth in Egypt was built of that marble, which was exported to different countries. The ancient sculptors preferred it to every other kind; but, if we judge of

it from the accounts of modern travelers, its quality does not correspond with its celebrity: the crystalline fibres, of which its grain is composed, fly asunder at the stroke of the chisel; but its great lustre, its pure whiteness, and other advantages, are perhaps more than sufficient to compensate that defect.

Naxos is the largest and most fertile of the Cyclades, abounding in corn, wine, and figs. Cecs (now Zea), situated outside the promontory of Sunium, is very fertile.

Euboea (now Egripos or Negropont) is not only the largest of the group called Sporades, but also of all the islands in the *Ægean Sea*. It is separated from the main-land of Greece by the straits of Euripus, which at one point is so narrow that a bridge is thrown over it. Chalcis (now Egripos) was the principal city anterior to the Trojan war.

Among the Sporades, Lemnos (now Stalimene), which lies about midway between Asia and Europe, in ancient times was sacred to Vulcan. Samothrace was remarkable as the seat of the ancient Pelasgian mysteries.

The so-called Ionian islands consist of seven larger and several lesser islands. The former are: Cythere, (now Cerigo,) formerly sacred to Venus. It yields excellent wine, raisins, and olives. Zaccynthus (now Zante) is the most charming. Bituminous springs well worthy of notice are found in this island, where the land appears to be hollow, and resounds under the feet of the passenger. Two basins, from 15 to 20 feet in diameter, are partly filled with cold and limpid water; liquid bitumen rises from each of them, and floats on the surface. A centigrade thermometer was plunged by Spallanzani into one of the pools, its temperature indicating before immersion 24° , but

it descended immediately afterwards to 17°. The same spring was visited by Herodotus, about 2,300 years ago. Cephalenia (now Cefalonia) is the largest of the group. Ithaca (now Teaki) is very rocky, and famed as the centre of Ulyssus' little kingdom. Leucadia (St. Maura) was formerly a peninsula, and part of Acarnania; but during the Peloponnesian war, the Corinthians cut through the narrow isthmus that connected it with the main land. Here is to be found the rock of Leucate, from which it is said the celebrated Sappho, in amorous despair, threw herself headlong into the sea.

Corcyra (now Corfu) was only separated from the promontory of Butthrotum by a narrow strait, and was distant about thirty miles from that of Acrocerania. In the Persian war, the fleet furnished by this island, on the Grecian side, was next in power to that of Athens.

History.—Nearly 4000 years ago, Greece was inhabited by fierce savages, termed *Autalithones*, or "children of the soil;" 3700 years ago, Inachus and Ogyges led a colony from Egypt into Greece; 200 years afterwards Cecrops, another Egyptian, founded Athens; and Cadmus, a Phœnician, settled in Bœotia, and built the city of Thebes. A century later Pelops, from Phrygia, established himself at Argos, amalgamated with the aborigines after the manner of the preceding-named adventurers, and acquired dominion over the territory,

which he styled the Peloponnesus. Greece was then parcelled out among different kings or rulers, who occasionally united for some common object, such as the exploratory expedition of the Argonauts to Colchis, and Mingrelia, on the coast of the Black Sea, and the war against Troy, about the year 1200 B. C. The rise, progress, and decline of the different Grecian states as kingdoms, oligarchies, and republics; their contests with each other; the rivalry of Athens and Sparta; the numerous colonies founded on the coasts of Europe and Asia Minor; the Persian war; the invasion of Xerxes for the extermination of the liberties of Greece; the naval skill of the Athenians; the devoted heroism of the Spartans; the Peloponnesian war of 27 years' duration; the Amphictyonic Councils (to which may be traced the origin of modern representative institutions); the supremacy of Philip of Macedon, and his son Alexander the Great; and the genius, the eloquence, the patriotism, the probity, and refined intellectual power of Greece, as exhibited in Socrates, Demosthenes, Draco, Lycurgus, Themistocles, Leonidas, Miltiades, Amphictyon, Alcibiades, Epaminondas, Aristides, Phocion, Democritus, Homer, Hesiod, Herodotus, Sophocles, Thucydides, Aristophanes, Phidias, and other great minds, are too well known to need detail in a work of this nature, where a limited space admits only of the grouping of general statements, more particularly pertaining to geography.

MODERN GREECE.

PERHAPS there can be no greater contrast than that which exists between Greece as it was, and Greece as it is. Ungewitter says that "the inhabitants may be called descendants of the ancient Greeks, just as well as the modern Italians might be called descendants of the ancient Romans. But whether those renowned people of antiquity would recognize their modern namesakes as their genuine offspring is another question, and at all events very doubtful." Every friend of humanity must deplore the lamentable condition of this fertile peninsula, which continues to exhibit innumerable landmarks of its former greatness. Mount Hæmus is still covered with verdant forests; the plains of Thrace, Macedonia, and Thessaly yield abundant and easy harvests to the husbandman; a thousand ports and a thousand gulfs are observed on the coasts, the peninsulas, and islands; the calm billows of tranquil seas bathe the base of mountains covered with vines and olive-trees. But the populous and numerous towns once noted by geographers and historians have been changed into deserts, and ruins and mountains alone attest the existence of ancient Greece.

Boundaries and Divisions.—These have been settled "by authority"—nothing less than protocols of Europe's sovereigns, and also local laws—enacted, repealed, and re-enacted. According to the latest of these, we may locate Greece between lat. $36^{\circ} 23'$ and $39^{\circ} 30' N.$, and lon. $20^{\circ} 45'$ and $26^{\circ} E.$, with the following boundaries: N. by European Turkey, from the Gulf of Volo to the Gulf of Arta; W. by the Ionian Sea and Islands; S. by the Mediterranean and the Island of Crete; and E. by the Ægean Sea, which separates it from Asia. By the last legal arrangement, the coun-

try was divided into 10 nomes or nomarchies, and 49 eparchies or dioceses, as follows:

NAME.	CHIEF TOWNS.	POP. IN 1852.	CAPITAL.
Acarmania and Ætolia....	Missolonghi....	99,649	Vrachori.
Achaia and Elida or Elis....	Patras.....	116,941	Patras.
Arcadia.....	Tripolizza....	120,872	Tripolizza.
Argolida and Corinthia....	Nauplia....	105,243	Nauplia.
Attica and Boeotia.....	Athens.....	87,233	Athens.
Cyclades.....	Syria.....	128,621	Hermopolis
Eubœa or Negropont.....	Chalcia.....	66,297	Chalcia.
Laconia.....	Sparta.....	87,801	Sparta.
Messenia.....	Calamita.....	98,805	Arcadia.
Phocis and Phthiotæ....	Lamia.....	81,640	Salma.

Total Population..... 1,002,102

Mountains, &c.—No part of Europe, Switzerland excepted, is so mountainous throughout its whole extent, being traversed in almost every direction by numerous ridges, the summits of which, though not so lofty as the central range of the Alps, attain in many instances to the elevation of perpetual snow. Having already noticed the several European ranges, we shall here only particularize such mountains as are eminent in mythology and history. Under the name of Hæmus, is generally included all the mountains which separate the feeders of the Danube and Adriatic from the waters that flow into the Archipelago; but Pindus is probably the nucleus of the mountains in the Greek peninsula. Its rocks, forests, and poetic fountains have given rise to many interesting observations, but its precise elevation is still unknown, although its highest summit, Mt. Mezzovo, is generally estimated at 8,950 ft. Snow frequently falls during the month of October on all its summits, and two of them, Dokimi and Péristera, are covered with snow nearly the whole year. Olympus, celebrated by Homer and other poets as the throne of the gods, has a sublime and picturesque appearance. Its height has been variously estimated from 5,760 to 9,745 ft. The pass of Platamona, on its north, is encompassed with perpendicular rocks, rising to the height of

3,000 ft.; the famous pass of Thermopylæ is not so imposing, but neither can vie with the one in the ancient Megaris, between the Scironian rocks and the Salonic gulf.—Parnassus, whose steep and rugged summits reach the height of 8,068 ft., affording a magnificent view of nearly all Hellas, is also of great poetic celebrity. Between this and an adjacent peak is a renowned rivulet, anciently known as the Castalian fountain, and on its S. declivity is the Corycian cave, a stalactite grotto, 330 ft. in length by nearly 200 in width.

There are several others of less note, and it is supposed that the island of Candia or Crete is a continuation of the mountainous districts which extend along Greece and the Peloponnesus. The Cyclades are also said to be the scattered fragments of two small chains, one of which extends from Athens, and the other to Eubœa.

Islands.—The principal are the following: Eubœa, or Negropont, with an extent of 1,480 sq. m., and a population of 60,000, has a fertile soil, and is in some places thickly wooded; it contains the towns of Chalcis and Karystos.—The northern Sporades comprise the four isles of Skyros, Skopelos, Skiathos, and Halonesus.—The Cyclades comprise 21 isles, the most remarkable of which are Syra (48 sq. m. and 42,000 inhabitants), productive in grain, wine, olive-oil, fruits, etc.; containing Hermopolis, a very important commercial city, and in some respect the emporium of modern Greece, with 30,000 inhabitants. The isles of Tinos, or Tenos (85 sq. m. and 20,000 inhabitants), and Andros (90 sq. m. and 15,000 inhabitants), are noted for their silk, wine, etc.—Milo (64 sq. m. and 10,000 inhabitants), productive in grain, cotton, fruits, etc., and containing the town of the same name, with a fine harbor, considerable commerce and shipping, and 5,000

inhabitants. Paros (85 sq. m. and 3,000 inhabitants) already noticed for its marble; Naxia, or Naxos (106 sq. m. and 14,000 inhabitants), for its fertile soil; and Theva, or Santorin (57 sq. m. and 15,000 inhabitants), for its excellent wines.

The climate is mild, but variable, and winter seldom lasts beyond two months. The summer is rather warm, the thermometer frequently ranging at 100°, but the heat is greatly modified by the sea-breezes, and the weather is remarkably clear until towards the end of harvest, when copious rains set in, swelling the streams, which sometimes overflow considerable tracts of land.

Both the soil and the climate are favorable for the production of olives, currants, almonds, dates, figs, oranges, citrons, the vine, etc., and the cultivation of the mulberry has been recently extended, with satisfactory results. Wheat, barley, and corn are also advantageously raised.

The most important branch of manufacturing industry is ship-building, which is carried on pretty extensively; but few vessels over 300 or 400 tons are built, and by far the greater portion are from 6 to 7 tons. Woolen, cotton, and silk fabrics, with earthenware, leather, harness, cutlery, and fire-arms, give employment to a portion of the inhabitants of several towns, but they are not considered as very promising.

Commerce, particularly with foreign countries, is rapidly extending itself; and a ready market for surplus grain, tallow, staves, etc., is generally found in Turkey, Italy, France, Spain, and England. The trade with the United States is also considerable, and increasing. The principal exports are valonia, oil, emery stone, silk, figs, currants, raisins, honey, madder, wax, etc.; and the imports are cotton, woolen, and silk goods, hardware, dyes, &c.

Government, Resources, &c.—It was stipulated when the crown was conferred upon Prince Otho, that it should remain hereditary, and never be united with that of Bavaria or any other country. Although at first an almost absolute monarchy, the government has been essentially modified since its institution—the executive power only being, retained by the king, while the legislative is shared by a senate and representative chamber. The French civil code has been adopted as the basis for civil and criminal law, which is administered by a supreme court, having its seat at Athens; two royal courts, one at Athens and another at Nauplia, ten courts of primary resort, one in each of the principal towns; and three courts of commerce, one each at Syra, Patras, and Nauplia. The financial affairs of the kingdom are in rather an embarrassed condition: the revenue from all sources in 1850 was estimated at about \$3,350,000, of which nearly \$1,000,000 was required for the interest on the public debt. The army numbers about 9,000 men, and the navy two 26-gun sloops-of-war, two brigs, two steamers, one of which mounts six guns, and several smaller vessels.

Athens, the capital of the kingdom, situated in lat. $37^{\circ} 58' 8''$ N., lon. $23^{\circ} 43' 54''$ E., is no longer "the beautiful" or "the powerful:" that once great seat of learning and magnificence has dwindled down to a state of comparative insignificance. It has as yet neither important manufactures nor commerce, though the harbor still called the Piræus, is excellent. The most striking monument of its former greatness now remaining is the Temple of Theseus, built B. C. 480, which is probably the most perfect ancient edifice in existence. Pop. 28,000, including garrison of 1,500.

Patras, in lat. $38^{\circ} 14' 5''$ N., lon. $21^{\circ} 44'$ E.,

is a fortified sea-port, and the principal seat of foreign trade. It is regularly built, and improving—the houses being mostly of one story, on account of the frequency of earthquakes. It was in this town that the struggle for independence was commenced in 1821. Pop. 8,000.

Tripolitza, 22 m. S. W. of Argos, and in a plain 3,000 ft. above sea-level, owes its name to being the modern representative of the three ancient cities of Mantinea, Tegea, and Pallantium, traces of all which exist in its vicinity.

Nauplia, or Napoli di Romani, in lat. $37^{\circ} 33' 36''$ N., lon. $22^{\circ} 48'$ E., 5 m. S. S. E. of Argos, is a fortified sea-port, laid out in modern European style, with a good main street, some squares, and an ample roadstead. Pop. 12,000 or 15,000.

Chalcis, or Negropont, is a maritime town on the narrowest part of the Euripus, where it is crossed by a bridge, 17 m. N. E. of Thebes. It is enclosed on the land side by old walls, and contains some old Venetian edifices, mosques, barracks, and schools. Pop. 5,000.

Hermopolis, on the E. shore of the island of Syra, has attained some importance as a commercial town, and many new streets have been laid out. It is the principal station for steamers going to or from Constantinople, and is also the residence of most European consuls. Pop. 20,000.

The cause of education has experienced a signal revival within the last twenty years, and is still progressing. Athens has a university and gymnasium on the same plan as those of Germany. Nauplia, Patras, and Syra also enjoy improved educational facilities; and there are now throughout the country about 50 secondary and 300 primary schools.

The established religion is that of the Greek Church, and none other meets with much favor,

although there are about 25,000 Catholics, chiefly in the islands.

History.—It is no part of our purpose to enter any further than has been done already into a history of the complicated condition of Greece, either in its earlier or later days. It must suffice to say, that after its annexation to the Roman empire, the spirit of its people seemed to be extinguished; and when the Turks were contending for supremacy in Europe, it shared the common fate of all other Roman provinces, and continued under the dominion of its new masters from 1458 until quite a recent period. Occasionally an unsuccessful struggle was made to throw off the galling yoke of the oppressor; but it was not until 1821 that an effort was made in which the sympathies of the civilized world were enlisted. The leaders, however, evinced so little skill and circumspection, that a failure must have resulted again, had not England, France, and Russia finally come to the rescue. These combined powers, after destroying an immense Turkish fleet, and compelling the Turks to evacuate Greece, in 1829 concluded a treaty with the Porte, by which the independence of that long-desolated country was recognized. In the interim, Count Capo d'Istria, an eminent Greek statesman from Corfu, had been elected (in 1827) president of the provisional government; but he was assassinated in 1831 by one of his own countrymen. In 1832, Greece being erected into a kingdom, Prince Otho, of Bavaria, (born June 1, 1815,) was placed upon the throne, where he still continues.

THE IONIAN REPUBLIC

COMPRISES the islands of Corfu (the capital), Cephalonia, Zante, Santa Maura, Ithaca, Paxo,

Cerigo, Fano, Merlera, Meganisé, Kalamo, Servi, Cerigotto, and some others of smaller extent. Their names is supposed to be derived from Ion, who founded colonies in ancient Cephalonia and other islands, and the group is situated in the Mediterranean, off the W. coast of Greece and Epirus, between lat. 36° and 40° N., and lon. 19° and 23° E. Area, 1092 sq. m. with a population of about 220,000, mostly of Greek descent. They were placed under the protection of Great Britain as a republic in 1814, and their government is vested in a lord high commissioner (appointed by England), and a senate and legislative assembly—the latter elected for five years. Each principal island is governed by a regent and council.

Commerce is extensively encouraged, particularly with Cephalonia, Corfu, and Zante—the principal articles of export being grain, olive oil, silk, currants, etc., and the imports mainly consisting of woven fabrics, salt fish, and colonial produce, to the average amount of \$3,500,000 annually. The revenue and expenditures range within \$500,000, \$10,000 of which goes for military protection.

Ship-building gives employment to a large number of the population, many of whom are also engaged in maritime trade and navigation. The navy is of small account, consisting of one frigate, three steamers, and a few smaller vessels. The army embraces four regiments of native militia, and 3000 British troops, who are constantly stationed among the islands.

The established religion is that of the Greek Church, and but little toleration is given to any other.

There are 21 judicial courts, subordinate to a supreme court in Corfu, the seat of parliament.

ITALIA, OR ITALY.

ITALIA originally designated only the extreme southern portion, subsequently called Bruttium, and extending N. to the isthmus on the Gulf of Scylla; nor had the peninsula in ancient times a general name, but each district received its appellation after the people by whom it was inhabited. Thus: Ænotria, the south-western peninsula, from the Læus; Ausonia, or Opica, northward from the Læus to the Tiber; Tyrrhenia, from the Tiber to the Apennines; Umbrica, the north-eastern part of the peninsula; and Iapygia, its south-eastern part. Italy was never inhabited by one single race, but contained a great number of different races, who had migrated into the country at a very early period. The most ancient inhabitants were Pelasgians or Ænotrians, a branch of the same great race who originally inhabited Greece and Asia Minor. It was not until the Romans had united the whole peninsula under one government (about 270 B. C.) that Italia became a general name for the entire country, extending northward to that branch of the Apennines which stretches from the maritime Alps nearly to the Adriatic, and as far as the River Rubicon. Gallia Cisalpina, which had been subdued B. C. 221, was called in Cæsar's time Liguria; but (together with the territory of the Carni, Istri, and Veneti) was considered from the time of Augustus a part of Italy; the western boundary of which towards Gaul was the River Varus, (now Var, or Varo), and the eastern, the River Arsia, now Arsa. But even at a later period, many of the ancient names were employed by both Greek and Latin poets to designate sometimes the whole peninsula, and sometimes particular portions. Italy is also called by them Hesperia (literally the land of the West)

and Saturnia (perhaps the name given by the ancient Latins to a portion of Central Italy, because Saturn is said to have once reigned in Latium). The principal mountains will be found described under the general head of EUROPE.

Principal Waters: Seas.—The Tuscan Sea, or the Adriatic, Mare Hadriaticum, and the Mediterranean.

Gulfs.—The Gulf of Genoa, Gulf of Taranto, and Gulf of Trieste.

Lakes.—In Upper Italy—Lake of Maggiore, Lake of Como, and Lake of Garda. In Central Italy—Lake Perugia, Lake Castello, Lake Regillo, and Lake of Celano.

Rivers—Running into the Adriatic.—The two greater Alpine streams, viz: the Adige and the Po, and the small rivers in the narrow eastern strip of land between the Apennines and the sea; viz: the Rubicon, the Metauro, and the Ofanto. The Po rises in Monte Viso, and, after receiving the waters of thirty tributary streams from the Alps and Apennines, is raised, by means of the alluvial soil deposited in its bed, thirty feet above the level of the surrounding country, which is protected by dams; and, finally, forms with its seven mouths a swampy Delta. The most important tributary streams are—Rising in the Alps—1, the Tessino, the Adda, and the Mincio, which precipitate themselves together from the mountains into one of the greater lakes of Upper Italy, and thence run with clearer water into the Po. 2, Rising in the Alps—the Trebia.

Running into the Tuscan Sea.—From the broader space on the western side of the Apennines—1, The Arno, and, 2, the Tevere; the course of which is lengthened by their running at first through valleys, nearly parallel to the coast, and then passing into others at right angles with

the former, until they discharge themselves by swampy embouchures into the sea. 3, The Garigliano. 4, The Volturno and the Silaro.

The tributary streams of the Tiber are—on the left, the Allia and the Teverone; and on the right, the Cremera.

Divisions.—*Upper Italy* contains those districts which were not reckoned among the Italian states by the Romans until the time of Cæsar and Augustus: 1, Liguria; 2, Gallia Cisalpina, or Togata; 3, the country of the Veneti, with that of the Carni and Istri.

Central Italy contains—On the western side, Etruria, Latium, and Campania; on the eastern side, Umbria, Picenum, and Samnium. *Lower Italy*—On the western side, Lucania and Brutium; on the eastern side, Apulia and Calabria.

The Islands are—Sicily, Sardinia, Corsica, and some smaller ones.

Ancient Inhabitants.—The Pelasgi inhabited not only the entire western coast from the Arnus to the southernmost point of Italy (where the northern portion of them were called Tyrrheni, and the southern Ænotrii), but also parts of the eastern coast; the Veneti in the north, and the Daunii and Peucetii in the south, belonging probably to the Pelasgian race.

The Opici, Osci, and Ausones, inhabited the western branch of the Apennine chain. To this race belonged the Æqui and Volsci, in Latium the Casci (or Prisci), who dwelt at first round the Lake Fucinus, and at a later period were driven out by the Sabines, and migrated to Latium, and probably the Apuli (westward of the Garganus), who subdued the Pelasgian Daunii.

The Sabelli were an offset of the ancient Sabini, whose original seat was among the highest mountains of the Abruzzi about Amiternum, whence

the superfluous population migrated in various directions—the Picentes to Picenum, the Hernici to Latium, the Samnites to Campania, and the Lucani to Lucania. In the ancient seats there remained the Marsi, Peligni, Vessini, and Marucini, who composed a confederacy.

The Umbri were an aboriginal people of Italy, who, before the immigration of the Etrusci, had spread from the Padus into the country of the Sabines, and probably also into southern Etruria.

The Ligures, whose origin is unknown, at an early period had considerably transgressed the boundary assigned to Liguria by Augustus (perhaps from the Pyrenees to the Tiber, and in the north as far as the Sevenine and across the Po), but were afterwards driven back by the Iberes on one side, and the Celtæ on the other.

Foreign Settlers.—The Etrusci, or Tuscans (Raseni in their own language), came from Rætia, being probably driven out by the Celtæ, and entering Upper Italy, drove back the Venetians and Umbrians, and founded in Gallia Cisalpina (of which the Ligurians retained the western part) a confederate state of twelve sovereign cities. At a later period they crossed the Apennines and the Arnus, and founded in Tuscan a second confederate state of twelve cities; having first subdued or expelled the Umbrians and Tyrrhenians, who dwelt between the Arno and the Tiber. At length (about 470 B.C.) they forced their way into Campania, where they founded colonies (probably a third confederate state of twelve cities), such as Capua and Nola; of which, however, they were soon deprived by the Samnites.

Several tribes from Greece early formed settlements in Lower Italy. Among others, were “the despised Parthenii,” as they were called—probably the children of slaves—who, being detected

a conspiracy with the Helots, emigrated to Italy, and founded the city of Tarentum, B. C. 708.

The Gauls, a rude offshoot of the great tribe of the Celtæ, migrated (about B. C. 400) in great numbers (300,000) into Italy; a portion of them overrunning Upper Italy, and marching upon Rome; while the remainder directed their course towards Pannonia.

Topography—Upper Italy.—Liguria, in the time of Augustus, comprehended the line of coast between the Rivers Varus and Macra, northward as far as the Padus. Genua, now Genoa, was the chief commercial city.

Gallia Cisalpina, or Togata, a vast plain, was occupied by the Gauls, and divided by the Po into two parts: Gallia Cispadana, inhabited by the Boii, Senones, and Lingones, comprehended the cities of Placentia (Piacenza), at the confluence of the Trebia with the Padus, founded by the Romans in 219; Mutina (Modena), Bononia (Bologna), and Ravenna, formerly on the sea-coast, but now an inland town, and the imperial residence from the time of Honorius. Gallia Transpadana, inhabited by the Taurini, Insubres, and Cenomani, comprised the cities of Augusta Taurinorum, now Turin, on the Padus, originally the capital of the Taurini, under the name of Taurasia; Vercellæ (Vercelli), celebrated for the defeat of the Cimbrii in the Campi Raudii in 101; Ticinum (Pavia) on the Ticinus; Mediolanum now Milan, under the emperors the seat of the arts and sciences (hence New Athens), and frequently the imperial residence; Cremona on the Padus, founded by the Romans in 219; Mantua, in a lake formed by the River Mincius; near it was the village of Andes, in which Virgil was born.

The country of the Veneti embraced the cities of Verona, on both sides of the Athesis, which was

very populous, and contained an amphitheatre for 22,000 spectators; and Patavium, now Padua, founded, according to the legend, by Trojan exiles, under the command of Antenor, and noted as the birth-place of Livy: hence his "Patavinitas," or provincialism. From the time of Augustus the following districts were also included in the country of the Veneti: The country of the Carni, with the city of Aquileia, demolished by Attila, A. D. 452; and Istra, with the city of Tergeste (Trieste).

Respecting the origin of the Veneti, considerable uncertainty seems to have existed, even among the best-informed writers of antiquity. Having crossed over into Europe, under command of Antenor, they expelled the Euganei, the original inhabitants of the country. Strabo was inclined to believe the Veneti to be Gauls, as there was a tribe of the same name in that country; but this opinion is at variance with the testimony of Polybius. Herodotus, who was well acquainted with the Veneti, designates them by the generic appellation of Illyrians. According to an old geographer, they counted within their territory fifty cities, and a population of a million and a half. The soil and climate were excellent, and it is said their cattle bred twice a-year. Their horses were particularly noted for their fleetness, and are known to have often gained prizes in the games of Greece. When the Gauls had been subjugated, and their country reduced to a state of dependence, the Veneti do not appear to have manifested any unwillingness to constitute part of the new province. Their territory from that time was included under the general denomination of Cisalpine Gaul, and they were admitted to all the privileges which that province successively obtained. In the reign of Augustus, Venetia was considered as a separate district, constituting the tenth region in the divi-

sion made by that emperor. Its boundaries, if we include within them the Tridentini, Meduaci, Carni, and other smaller nations, may be considered to be the Athesis, and a line drawn from that river to the Po, to the W.; the Alps to the N.; the Adriatic, as far as the River Formio (Risana) to the E.; and the main branch of the Po to the S.

Central Italy comprised Etruria, or Tyrrhenia, and at a later period also Tuscia; it was bounded N. by the Macra, E. and S. by the Tiber, and W. by the sea. The aboriginal inhabitants were Tyrrhenian Pelasgians, and the settlers were the Etrusci from Rhetia.

Latium was divided into *Latium vetus*, from the Tiber to the promontory of Circeii, and *Latium adjectum*, or *novum*, to the Liris. *Latium vetus* was originally inhabited by the Siculii (Tyrrhenian Pelasgians), of whom a considerable number fled into Sicily, when the Casci, retiring before the Sabines, took possession of their country; while the remainder, submitting to the invaders, formed in conjunction with them the nation of the Latini. In contradistinction to the nation thus established by conquest, the Siculi, as the earlier inhabitants of Latium, were also styled aborigines. By degrees there arose thirty small independent states, forming a confederacy, which annually held a diet for the discussion of questions affecting the general interests.

Roma, which originally stood on the left bank of the Tiber, on seven hills (Palatinus, Capitolinus, Quirinalis, Viminalis, Esquilinus, Caelius, and Aventinus,) was always foremost among its important cities, and requires to be specially noticed. The ancient city was confined to the Palatine. On the opposite hill (the Quirinalis), was a Sabine colony, the citizens of which were named Quirites.

After the Sabine war, these two districts united, forming a single city, protected by a fortress on the Capitoline, which they occupied as a common citadel. An addition was made to the city by Tullus Hostilius, who settled the Albans on the Caelian hill, after the demolition of their own city, and by Ancus Martius, who established the vanquished Latins on the Aventine. Tarquinius Priscus drained the swampy flats (particularly the Velabrum between the Palatine and Aventine), and Servius Tullius surrounded the seven hills with a wall, which extended on the other side of the Tiber to the summit of the Janiculum. On the eastern side alone, from the Porta Collina to the Esquilina, the city was protected merely by a mound of earth (agger), with fosses. Servius divided the city into four regions (Suburana, Esquilana, Collina, and Palatina). When Rome was burned by the Gauls, the whole city was destroyed, as far as the Capitoline hill, and subsequently rebuilt without any regular plan. From the time of the Punic war, and still more from the reign of Augustus (who divided the city into fourteen regions), there were considerable additions and embellishments. After the conflagration in Nero's reign, the three districts which had been laid in ashes were rebuilt, and presented a uniform appearance. Aurelian entirely surrounded the city with a new wall (with towers, battlements, and breastworks), and under Diocletian Rome had attained her highest pitch of beauty and splendor: but with the transfer of the imperial residence to Byzantium, the prosperity of the ancient capital began rapidly to decline, and several quarters were gradually deserted, especially after the sack and pillage of the city by the Goths (A. D. 410), and Vandals (455).

The Mons Capitolinus, originally Saturnius,

consisted of two portions, separated by the "intermontium." The southernmost of these rocky peaks was the *rupes Tarpeia*, and the northern, which was fortified, was named *arx*. On the south-western side stood the temple of *Jupiter Capitolanus*, built by *Tarquinius Superbus*, which was thrice burned (B. C. 84, A. D. 69 and 80). Between the *Capitoline* and *Palatine* was the *forum Romanum* (now *campo vaccino*), divided by the *rostra*, or stage from which orators addressed the people, into the *comitium* (place of meeting for the patricians), and the *forum*, properly so called (where the plebeians assembled). Between the *Palatine* and *Aventine* was the *Circus Maximus*, which held, at the lowest estimate, 150,000 persons; according to A. Victor, 385,000. The handsomest streets were the *Via Sacra*, leading from the *Colosseum* to the *forum*, and the *Carinæ*, between the *Esquiline* and *Cælian*; and the place of greatest public resort was the *Campus Martius*, which was used for gymnastic exercises, reviews of the army, and the *comitia curiata*. The most important buildings were, among the temples, (of which there were more than 400,) that of *Jupiter Capitolinus*, and the *Pantheon* of *Agrippa* (now *Santa Maria della Rotonda*); among the palaces, the golden house of *Nero*, which not only covered the whole of the *Palatine*, but even extended as far as the *Esquiline*, and comprehended within its walls temples, baths, groves, race-courses, &c.; among the theatres, the three built by *Pompey* (for 40,000 spectators), that of *Marcellus* (with 30,000 seats); among the amphitheatres, the *Amphitheatrum Flavium*, afterwards the *Colosseum*, begun by *Vespasian*, and completed by *Titus*, which could accommodate 100,000 persons; among the baths, those of *Titus* (in which the group of the *Laocoon*

was discovered), of *Caracalla* and *Diocletian*; among the columns, the column *rostrata* *Duillii*, in the *forum Romanum*, and the pillar of *Trajan* in the *Forum Ulpium*; among the monuments, the *mausoleum* of *Augustus*, the *Moles Hadriani* (now the castle of *St. Angelo*), the *Septizonium* of *Septimius Severus*; and among the triumphal arches, those of *Titus*, *Septimius Severus*, and *Constantine*. Besides these, there were several porticoes, basilicæ, gates, fora, circuses, *naumachiz*, obelisks, statues, etc., etc.

The environs of the city (especially on the sixteen scientifically-constructed roads leading to all parts of Italy) were crowded with innumerable villas, sepulchral monuments, and ornamental buildings of every description. Underneath the city and the *via Appia* were *catacombs*. On the *Alban mount* was a temple to *Latial Jove*, where consuls went to offer sacrifice before setting out for the army.

To the other Latin cities we can only extend a very brief enumeration, as follows: *Ostia*, founded at the mouth of the *Tiber* by *Ancus Martius*, as the port of *Rome*; *Laurentum*, also on the coast, where *Latinus* was king when *Æneas* landed in Italy; *Lavinium*, built, according to the legend, by *Æneas*; and *Alba Longa*, on the slope of the *Alban hill*, and on the border of the *Alban lake*; *Tusculum* (near the modern *Frascati*), surrounded by numerous villas; *Præneste* (now *Palestrina*), built on the slope of a hill in the form of terraces, and strongly fortified, but demolished in the civil wars of *Sulla*; *Gabii*, said to have been taken by stratagem by *S. Tarquinius*; *Tibur* (now *Tivoli*), on the *Anio*, a favorite residence of the Roman nobles; and *Collatia*, the residence of *Tarquinius Collatinus*, the husband of *Lucretia*.

Campania, from the *Liris* to *Silarus*, was first

peopled by Tyrrhenian Pelasgians. A number of Greek settlements were made on the coast, and the Etruscans afterwards made an attempt to establish themselves in this territory, but were speedily "crushed out" by an invasion of the Samnites.

From the amalgamation of the Samnites with the earlier inhabitants, sprang the Campanians. On the coast was Cumæ, the most ancient Greek colony in Italy, said to have been founded by emigrants from Chalcis in Eubœa (b. c. 1030?), with its port Dicæarchia (modern Puteoli). Also, the cities of Neapolis (Naples), near which was Parthenope, or Palaiopolis, a colony of Cumæ; here, too, was the important cities of Herculaneum (over which now stand the cities of Portici and Resina), Pompeii, and Stabizæ, destroyed by an eruption of Vesuvius, A. D. 79. The two first were again brought to light in the last century, and afforded since then a rich harvest to the antiquarian. The chief city in the interior was Capua, at first a Tyrrhenian settlement under the name of Vulturnum, then Etruscan, afterwards Samnite, and lastly, a Roman municipium, and the second city of Italy, until it espoused the cause of Hannibal, when it was a second time captured, and suffered the vengeance of the conqueror; it continued, however, to be of considerable importance until the middle ages.

Umbria extended from the Rubicon to the Æsis and Nar, and included the cities of Ariminum (Rimini), Sena (Sinigaglia), and Sentinum.

Picenum was originally inhabited by Pelasgians, and afterwards by Picentians, a Sabine people. Its chief cities were Ancona and Asculum Picenum (Ascoli).

Samnium was mostly peopled by the Sabines, and their offspring, the Sabelli.

The capital (Cures), where T. Tatius and Numa Pompilius were born, was not remarkable for any thing else on record. Its other cities were Fidenæ, Crustumium, and Amiternum, the birthplace of Sallust. The Samnites, an offshoot of the Sabines, here enjoyed a long season of prosperity, and their dominions, previously to their wars with the Romans, extended from the Adriatic sea to the Tyrrhenian, comprehending the cities of Beneventum (Benevento) and Bovianum. The confederacy of the warlike Marsi and Peligni offered a brave resistance to the Romans, and secured a peace in 304 B. C.

Lower Italy, or Magna Græcia.—Lucania and Bruttium, separated by the river Laüs, were settled by the Ænotrii, who were Grecized by Grecian settlements on the coast, but afterwards subdued by the Lucanians (Sabelli), and reduced to the condition of serfs. At a later period, however, they rose against their oppressors, and, with the assistance of the Osci, wrested from them the southern half of the district: hence their name Bruttii—i. e., revolted serfs. To these may be added the Greek settlements on the coast, viz: Cities in Lucania—Sybaris, destroyed by the Crotoniates; [Posidonia, or Pæstum, of which magnificent ruins still remain, was founded by settlers from this city;] Thurii, founded by the Athenians in the vicinity of the demolished Sybaris; Helia (also Velia and Elea), seat of the Eleatic school of philosophy; and Heraclea. Cities in Bruttium (now Calabria)—Croton, near the promontory of Lacinium; Rhegium (now Reggio); Locri Epizephyrii; and Consentia, capital of the Bruttii, where Alaric died, and was buried in the bed of the Busentinus.

Apulia and Calabria, named by the Greeks

Iapygia, were peopled by the Messapians, Peucetians, and Daunians; hence, Apulia was divided by the Aufidus into Apulia Peucetia and Ap. Daunia. The Byzantines, after losing the south-eastern peninsula, transferred the name of Calabria to the south-western. The cities in Apulia were Laceria, Asculum Apulum, Cannæ (memorable for the defeat of the Romans by Hannibal in 216, B. C.) and Venusia (a Roman colony, established after the Samnite wars, and the birth-place of Horace.) Cities in Calabria:—Brundisium (Brindisi) and Tarentum (now Tarento), the most flourishing commercial and manufacturing Grecian city in Italy, with 300,000 inhabitants.

The Islands.—Sicilia, the granary of Italy, studded in ancient times with magnificent cities, and possessing an unusually numerous population, was separated from the Italian peninsula by the Sicilian Strait (now Strait of Messina), in which the currents of the Adriatic and Tyrrhenian seas met, and formed the whirlpools known by the names of Scylla and Charybdis. A continuation of the Apennines, which extends along the northern coast, and sends out a branch towards the south-east, gives the island its form, which is triangular, terminating in three promontories—Pelorum, Pachynum, and Lilybæum. The most fertile part of the island is the volcanic formation on the eastern coast, where Mount Ætna (Montebello) rears its fiery head. The Sicani (probably immigrants from Iberia) first settled the island, but were driven back, in the S. and W. part, by the Siculi, who came from Latium; Phœnician and Greek settlements were also made—the former on the north-western coast (they afterwards joined the Carthaginians), and the latter on the southern and western coasts. Its cities in the east were

Messana (now Messina), where the Messenians and the Mamertines formed settlements; Tauro-menium, with a theatre, which still remains, capable of holding from 30,000 to 40,000 spectators; Catana (Catania), at the foot of Mount Ætna; Syracusæ (Siragossa); a fourfold city (Ortygia, Archradina, Tycha, Neapolis), a Corinthian colony founded B. C. 734. At the period of its greatest prosperity it contained probably a million of inhabitants. In the south, were Gela, a Rhodian colony; Agrigentum (Girgenti, with its magnificent remains of Greek temples, one of which, the temple of Zeus Olympios, is described by Diodorus as the largest in the world); and Selinus. In the west and north, were Lilybæum, the Phœnician Motye; Drepana; Segeste, or Egesta; Panormus (Palermo); and Himera.

Sardinia and Corsica, the two neighboring islands, are essentially distinguished from the mainland of Italy by the granitic formation of their mountains, as well as by the rugged character of their inhabitants. The Sardinians lived in caves, and were clothed in the skins of wild beasts. Capital, Caralis (Cagliari), on the southern coast. The first inhabitants of Corsica were Ligurians, Iberians, Phœceans, and Carthaginians.

The smaller islands—are Ilva (now Elba), on the Etruscan coast, which abounds in iron; Capræ (now Capri), opposite Naples, the favorite residence of Tiberius; the (eleven) insulæ Æoliæ or Vulcaniæ (now the Lipari islands), the largest was called Lipara; the Ægates (now the Ægadian islands), near which the Romans gained a naval victory over the Carthaginians, and thus brought the first Punic war to an end, B. C. 241; and Melite (Malta) with its capital of the same name, a Phœnician colony. Under the rule of Carthage its trade and manufactures greatly flourished.





MODERN ITALY,

COMPOSED of a continental portion of Southern Europe, a peninsula, and several islands, extends geographically from the S. E. extremity of Sicily, lat. $36^{\circ} 41' 30''$ N., to the Rhaetian Alps, lat. 47° N., and from the W. point of the Cottian Alps, lon. $6^{\circ} 35'$ E., to the E. extremity of Terra di Otranto, lon. $18^{\circ} 35'$ E.: its political extent is 1° farther W., to include the province of Savoy, in the Sardinian states. It is bounded E. by the Adriatic and the Ionian Sea, S. by the Mediterranean, W. by France and the Mediterranean, and N. by Switzerland and Austria.

The continental portion of Italy is separated from the rest of Europe by the chain of the Alps—its waters belonging entirely to the basin of the Mediterranean Sea, and presenting a coast development upwards of 2,000 m. The shores of the Adriatic are little indented, and on the N. are shallow, and bordered by marshes; those of the Ionian Sea are flat only at the foot of the Gulf of Tarentum.

Islands.—The principal are Sicily, Sardinia, Corsica, Elba, Malta, and the Lipari.

The most important gulfs and bays are—In the Adriatic, those of Venice and Manfredonia; in the Ionian Sea, Tarentum and Squillace; the Gulf of Genoa, and the bays of St. Euphemia, Policastro, Salerno, Naples, and Gaeta; and the chief straits, those of Messina and Bonifacio. Prominent among the capes are Piombino, Argentaro, Circello, Campanella, Spartivento, Leuca, etc.

The rivers, which are generally more deserving the name of torrents, are of little consequence, with the exception of the Adige and the Po: the Tagliamento, Piave, Brenta, Pò, Aterno, Sangro,

and Ofanto, are in the basin of the Adriatic; the Arno, Ombrone, Tiber, Gareigliano, and Volturno, in that of the Mediterranean; and the Bradano, in that of the Ionian Sea; the Rhone forms part of the Savoy frontier.

The chief lakes are those of Geneva, Maggiore, Garda, and Lugano, greatly esteemed for their picturesque localities, and only portions of which are within the limits of Italy. Como and Iseo, too, have been sufficiently celebrated in prose and verse to secure an immortality without our mite of eulogy.

The climate is so varied and genial, that many productions of both the torrid and temperate zones are mingled over the surface of the fertile soil, and attain great perfection with little care. Among the agricultural crops, nearly all the ordinary cereals are included: corn is extensively cultivated in Sicily and in the plains of the Po, in which last are also found the largest rice-fields in Europe. Here, too, are those luxuriant pastures which feed vast herds of cows, from whose milk a cheese (the Parmesan) is produced of such rare excellence, as to be in great demand for exportation to all parts of the Continent, and even to this country. The chestnut and the mulberry flourish in unwonted vigor, and are regarded as of especial value—the former furnishing an important article of food, and the latter affording means of obtaining almost unlimited supplies of the finest silk. Endless varieties of fruit, of exquisite quality, are abundant in every quarter; and the vine and the olive, and even the sugar-cane and cotton-plant, well repay the attention they receive.

Animals.—The animals are similar to those of the rest of Europe, except that it embraces the buffalo; among reptiles, the asp, scorpion, and tarantula are found. The horses of Piedmont, are

very superior, and in the south their place is supplied by excellent mules. Fish are abundant in the rivers; the coasts furnish sponge and corals.

Minerals are abundant, particularly sulphur, borax, salt, nitre, alum, alabaster, lava, and other volcanic productions; but few metals are found, except lead and iron. Vesuvius, in the peninsula, and *Ætna*, Stromboli, Vulcano, and Vulcanello, in the islands, active volcanoes, have been noticed elsewhere. Mineral and gaseous springs are numerous, and the Apennines are rich in the beautiful marble of Carrara.

The manufactures are chiefly silk, woollens, gauze, porcelain, artificial flowers, musical instruments, parchment, etc; but they are not in a very flourishing condition, which is partly owing to an absence of the right sort of enterprise, and partly to the great decline of commerce.

The mass of the population, despite the unequalled natural advantages of the country, are in the most abject poverty, and their estimate of human life is at the lowest possible standard. The heroic virtues which distinguished their illustrious Roman progenitors are in vain sought for among the enervated Italians of the nineteenth century. The magnanimity which in ancient times would have either overlooked a transgression or resented it openly, is supplanted by that vindictive spirit which scruples not to effect its revenge by the hand of a professional assassin.

Religion—Roman Catholic. The King, as Beatissimo Padre, is head of the church. In Naples, exclusive of Sicily, there are 27,000 secular priests, 8,500 monks, and 8,000 nuns; and in Sicily a greater proportion.

Divisions, Population, &c.—The name, extent, and population of the political divisions of Italy

proper, according to the latest census, may be thus briefly stated in tabular form :

NAME.	AREA IN SQ. M.	POPULATION.	CAPITAL.
Lombardo-Venetian Kingdom .	17,511	6,007,472	Milan.
Kingdom of Sardinia	28,229	6,090,246	Turin.
Kingdom of Naples, including Sicily	41,906	8,704,472	Naples.
Pontifical States	17,210	3,006,771	Rome.
Grand Duchy of Tuscany, including Lucca	8,586	1,815,636	Florence.
Duchy of Parma	2,766	507,881	Parma.
Duchy of Modena	2,073	686,458	Modena.
Republic of San Marino	22	7,600	San Marino.
Principality of Monaco	53	6,800	Monaco
Total	118,356	24,733,385	

Having already given the political arrangements of Italy under Roman sway, it is necessary to say that these were essentially changed by the wars of the Middle Ages, and for a time by the conquests of Napoleon. In 1801, Savoy and Piedmont were united to France; the duchy of Milan formed the Cisalpine republic, to which in 1805 the duchy of Venice and its continental possessions were added, forming together the kingdom of Italy; Genoa was incorporated with France; and Naples was first given to Joseph Bonaparte, and afterwards to Murat. In 1808 the states of his Holiness the Pope were not regarded as too holy to form part and parcel of the atheistical French empire; and thus was all Italy, except Sicily and Sardinia, subjected to the rule of Napoleon. After his downfall, however, in 1814, the Italian states were restored to their former rulers, with the exception of Milan and Venice, which duchies were given to Austria, and formed—

THE LOMBARDO-VENETIAN KINGDOMS.

This important part of the Austrian dominions lying in the N. of Italy, between lat. 44° 54' and 46° 37' N., and lon. 8° 32' and 13° 37' E., is bounded N. by Switzerland and the Tyrol; W. by Lake Maggiore and the Ticino, which separate it from the Sardinian States; S. by the Sardinian

States, the duchies of Parma and Modena, and the Papal States, from all of which, with the exception of Modena, it is separated by the Po; and E. by the Adriatic Sea and the kingdom of Illyria. It is divided administratively into the two governments of Lombardy and Venice, having the River Mincio for the line of separation, the subdivisions, area, and population of each of which are as follows:

GOVERNMENT OF MILAN.		GOVERNMENT OF VENICE.	
<i>Delegations.</i>	<i>Pop.</i>	<i>Delegations.</i>	<i>Pop.</i>
Bergamo.....	378,123	Belluno.....	157,120
Brescia.....	356,225	Padua.....	312,765
Como.....	423,206	Rovigo.....	153,788
Cresmona.....	254,558	Treviso.....	286,199
Lodi Crema.....	218,846	Friuli, or Udine.....	429,844
Mantua.....	270,100	Venice.....	298,425
Milan.....	604,512	Verona.....	302,902
Pavia.....	171,622	Vicenza.....	340,694
Sondrio.....	98,550		
Total.....	2,725,740		2,281,732
		Total both Gov'ts. .	5,007,472

The above kingdom, which is governed by a viceroy resident in Milan, nearly corresponds to the ancient Roman divisions of Gallia Transpadana and Venetia, with a small portion of Rætia, but owes its name to the Longobardi (Longbeards), a powerful nation from the North, of Suevic origin. It afterwards formed part of the empire of Charlemagne, and then fell into the hands of the Austrians, who have contrived to maintain their rule, despite many laudable efforts of the disaffected population, to free themselves. Its greatest length from E. to W. is 243 m.; greatest breadth in the government of Lombardy, 108 m., and in that of Venice 130 m.—a portion of the Tyrol penetrating S. near the centre, at Lake Garda, and reducing the breadth in that locality to 66 m.

MILAN, the capital of its Austro-Italian government, is situated in a beautiful and fertile plain, (lat. 45° 28' 1" N., lon. 9° 11' 48" E.) between the Adda and Ticino, which in this part of their

course feed four separate canals—one of which, the "Grand Canal," encircling a large portion of the interior of the city, divides it into two unequal parts; while the other three, on the outside, are available both for irrigation and traffic. It is connected with Cemo on the N. by railroad, and with Treviglio on the E., the last line being also intended to connect it with Verona and Venice. It is built in the form of an irregular polygon, and is entered by 11 gates, the streets leading from which are of convenient breath, well paved, and lighted with gas. Among its numerous public resorts is the Piazza d'Armi, where the troops are exercised, part of which has been converted into an amphitheatre, 800 feet long by 400 broad, capable of accommodating 30,000 spectators. The major part of the houses are of brick, covered with tiles, and many of them have an elegant exterior. The magnificent Duomo, or Cathedral, located almost in the centre of the city, is only excelled by St. Peter's at Rome. This edifice, built of white marble, in the form of a Latin cross, and remarkable for the lightness of its construction, was commenced in 1387, and has been ever since gradually advancing. It is 490 feet long, 298 wide, and 355 high to the top of the dome, above which rises an elegant obelisk-shaped spire, in the midst of upwards of 100 others of lesser proportions, presenting the sublime appearance of a marble forest. Around the roofs and sides are 4,600 inches, nearly 4,000 of which are already filled by statues. In the interior, where every thing is on a like gorgeous and imposing scale, 50 immense pillars support the arches of the naves, and the floor is formed into various figures by choicest marble of every hue. Masterpieces of the greatest painters adorn the walls, and the groups of figures sketched on the windows, for

size and effect are perhaps unequalled in the world. There are many other churches, on a scale of splendor but little inferior to this, and enriched with so many ancient epitaphs and other relics, that they might be termed, not inaptly, sacred museums, including the famous opera-house. Pop. from 160,000 to 165,000.

VENICE, the capital of the government and delegation of its own name, is a fortified city, situated in the lagoons of Venice, a sort of vast lake, separated from the Adriatic by a long belt of low land, and 2 m. from the continent, with which it is connected by a stupendous bridge of 222 arches, forming part of the railroad to Padua; lat. $45^{\circ} 25' 9''$ N., and lon. $12^{\circ} 20' 2''$ E. It is the see of a Catholic primate, Greek and Armenian bishops, and the residence of the viceroy during part of the winter. This city is unique, both as regards position and construction, being built entirely on piles, and occupying 82 small islands, separated by 150 canals, which are crossed by 360 bridges. The general aspect is not only singular, but very enchanting: its canals are its streets, over which all classes pass in gondolas. The greater number of the houses are built of marble, being full of richness and splendor. Its churches are very imposing in appearance, and decorated with precious paintings; that of St. Mark's is considered one of the masterpieces of modern art. Pop. 110,000, besides the garrison.

SARDINIA.

A KINGDOM in North Italy, is composed of the island of that name, and a continental portion called the Sardinian States, comprising the duchy of Savoy, the principality of Redmont, the county of Nice, the duchy of Monferrat, a part of the former duchy of Milan, and the duchy of Genoa,

with the island of Capraja. The continental portion is situated between lat. $43^{\circ} 40'$ and $46^{\circ} 47'$ N., and lon. $5^{\circ} 38'$ and $10^{\circ} 7'$ E.; bounded N. and E. by Switzerland, Austrian Italy, Parma, and Modena, S. by the Mediterranean, and W. by France. Its area and population are as follows:

Divisions.	Provinces.	Area in sq. m.	Pop. in 1852.
Alexandria.....	Alexandria.....	335	124,344
	Asti.....	345	137,636
	Voghera.....	300	202,033
	Tortona.....	259	89,426
	Bobbio.....	270	37,947
Annecy.....	Genevois.....	...	100,627
	Faucigny.....	775	105,929
	Chablais.....	350	88,229
	Chambery.....	630	150,051
Chambery.....	Savoy (Upper).....	371	51,053
	Maurienne.....	788	64,500
	Tarentaise.....	682	45,841
	Coni.....	994	150,767
Coni.....	Mondovi.....	666	149,303
	Alba.....	408	119,283
	Saluzzo.....	618	156,449
	Genoa, { city.....	...	125,339
Genoa.....	Genoa, { province.....	352	184,546
	Chiavari.....	347	110,664
	Novi.....	281	65,235
	Levant.....	261	79,090
Ivrea.....	Ivrea.....	557	168,693
	Aosta.....	1,218	81,469
	Nice.....	1,195	118,616
	Oneglia.....	176	60,596
Nice.....	San Remo.....	287	64,803
	Novara.....	493	181,411
	Lomellina.....	474	139,854
	Pallanza.....	315	64,335
Novara.....	Ossola.....	540	38,470
	Valsesia.....	283	38,021
	Savona.....	304	79,748
	Acqui.....	439	101,548
Savona.....	Albenga.....	264	80,415
	Turin, { city.....	...	143,157
	Turin, { province.....	1,099	270,486
	Pinerolo.....	589	134,049
Turin.....	Susa.....	532	83,078
	Vercelli.....	545	125,234
	Biella.....	369	131,079
	Casale.....	327	121,860
		18,994	4,637,580
Cagliari.....	Cagliari.....	...	...
	Iglesias.....	...	42,696
	Sassari.....	...	48,963
	Oristano.....	...	78,189
	Nuoro.....	...	58,883
Nuoro.....	Cuglieri.....	...	37,522
	Lanusei.....	...	27,630
	Sassari.....	...	66,821
	Alghero.....	...	34,108
Sassari.....	Ozieri.....	...	24,456
	Tempio.....	...	22,660
		Total area of the islands of Sardinia, 9,225 sq. miles.	28,229 4,907,323

The average revenue is about \$20,000,000; expenditure, \$27,000,000; and public debt, \$100,000,000. Army, in 1853, 53,554 men. Navy, 4 steam and 4 sailing frigates; 4 corvettes, 3 brigantines, 1 brig, 6 small steamers, and a few others—numbering 40 vessels, with 900 guns.

Savoy is between the River Rhone, the Sea of Geneva, and the Grajish Alps—the latter separating it from Piedmont, and having Mount Blanc at its northern and Mount Cenis at its southern extremity. The almond fig-trees flourish here, but not the olive.

Piedmont, including Mont Ferrat and part of the Milanese territory, is divided into two almost equal parts by the River Po, which here has its source. The olive and various fruits are very productive in this section, and the culture of silk receives great attention.

Genoa, the city of marble palaces, is a fortified sea-port, in lat. 44° 24' 18" N., long. 8° 54' 24" E. at the head of the Gulf of Genoa, and is remarkable as the birth-place of Columbus. For seven centuries it was the capital of a famous commercial republic, which planted numerous colonies, in the Levant, but its annals are marked with turbulence and blood. It is a free port, and the great entrepôt, of a large extent of country, the produce of which—olive oil, rice, fruits, cheese, rags, steel, etc.—with manufactured goods, form the chief exports. Pop. about 100,000.

TURIN (formerly Augusta Taurinorum), the Sardinian capital, has a population of 137,000, with an extensive export trade of silks, velvets, hosiery, silk twist, organzine, woolen and cotton fabrics, etc. It has many superb public edifices, ancient and modern, with several literary, scientific, and charitable institutions.

THE KINGDOM OF NAPLES.

A POLITICAL and administrative division of the kingdom of the Two Sicilies, occupies the southern part of the Italian peninsula, comprising the whole of the continental portion of the state, (anciently known as Samnium, Apulia, and Magna Græca,) with the city of Naples its capital. It is situated between lat. 37° 56' and 42° 55' N., and lon. 12° 54' and 18° 33' E.; bounded E. by the Adriatic, S. by the Ionian Sea, W. by the Mediterranean and the Strait of Messina, and N. by the Papal States. Its area, divisions, and population are as follows:

PROVINCES.	AREA IN SQ. M.	POP.	CHEIF CITIES.
Naples—prov.....	382	822,142	Naples.
Terra di Lavoro.....	2,506	752,012	Caserta.
Molise.....	1,785	360,549	Campobasso.
Abruzzo Citra.....	1,248	312,399	Chieti.
“ Ultra I.....	1,242	329,728	Teramo.
“ “ II.....	2,530	329,131	Aquila.
Principato Ultra.....	141	383,414	Avellino.
Capitanata.....	2,928	318,415	Foggia.
Principato Citra.....	2,271	558,809	Salerno.
Basilicata.....	4,162	501,223	Potenza.
Calabria Citra.....	2,630	435,811	Cosenza.
“ Ultra I.....	2,203	319,662	Reggio.
“ “ II.....	2,072	381,147	Catanzarza.
Bari (Terra di).....	2,368	497,432	Bari.
Otranto (Terra di).....	2,883	409,000	Lecce.
Total.....	31,360	6,610,773	

The Apennine ridge, which passes from N. to S., and sends out spurs towards the Gulf of Venice on the one side, and the Mediterranean on the other, forms the principal feature of this kingdom. Their structure is granite and gneiss, and, on the N. W. coast, basalt and volcanic tufa. The four fiery volcanoes of Vesuvius, Ætna, Stromboli, and Vulcano are in the Two Sicilies, where there are also several cold mud and wind volcanoes.

NAPLES, the capital, anciently called Parthenope, stands on the Bay of Naples, lat. 40° 50' N., lon. 14° 15' E. It is built in a semi-circular

form, sloping from the lofty mountains which shelter it towards the sea, and is defended by six strong castles, and an excellent mole or jetty. The streets, which are mostly very narrow, are tolerably regular, generally clean, and admirably paved with square blocks of lava, so exactly fitted that not the least irregularity can be discerned. The houses are large, substantial, and lofty, averaging not less than five or six stories, with flat roofs, covered with a composition of puzzolano, and, by the number of plants crowded upon them, and converted into a kind of domestic shrubbery. There are numerous public edifices deserving of more notice than we can bestow upon them: those devoted to sacred purposes are the Cathedral, a large Gothic building, erected on the site of a temple of Apollo, and held in high veneration in consequence of possessing the relics of St. Januarius, or Genaro; the church del Santi Apostoli, originally founded by Constantine the Great, on the site of a temple of Mercury; the churches of St. Paul, St. Martin, Del Parto, San Severo, St. Philip de Neri, and others—numbering in all about 300. The Royal Palace, richly fitted up, and adorned with paintings, is an immense building of three stories, each of a different order of architecture; the Palazzo Dagli Studi Pubblici, erected early in the seventeenth century, originally intended and used for a university, but in 1790 converted into a great national museum, and now called Musei Borbonici, said to be unrivaled in its various collection of antiquities, and also containing the Royal Library, (165,000 volumes, and many rare manuscripts,) open to the public. Among numerous educational institutions are the University, founded in 1224, and averaging about 1500 students; the Lyceum del Salvatore, a medico-chirurgical

school, royal military and public schools, and a goodly sprinkling of charitable institutions. Yet, with all these, education is at a very low ebb, and not generally diffused. The magnificent Bay of Naples, on which the city is located, has had its romantic beauties said and sung "in every land, by every tongue;" and yet we are assured by many accomplished travelers of great poetic taste, that the Bay of New York, on a calm summer's afternoon, presents a far more enchanting picture in which the absence of regal residences is amply supplied by the ever-varying fleet of water-craft upon its bosom.—In May, 1848, Naples was the scene of a most disgraceful outrage, during which the city was plundered by the lazzaroni, and 1,500 lives were sacrificed. Population 401,000, including 2,000 secular clergy, 700 monks, and 1,000 nuns.

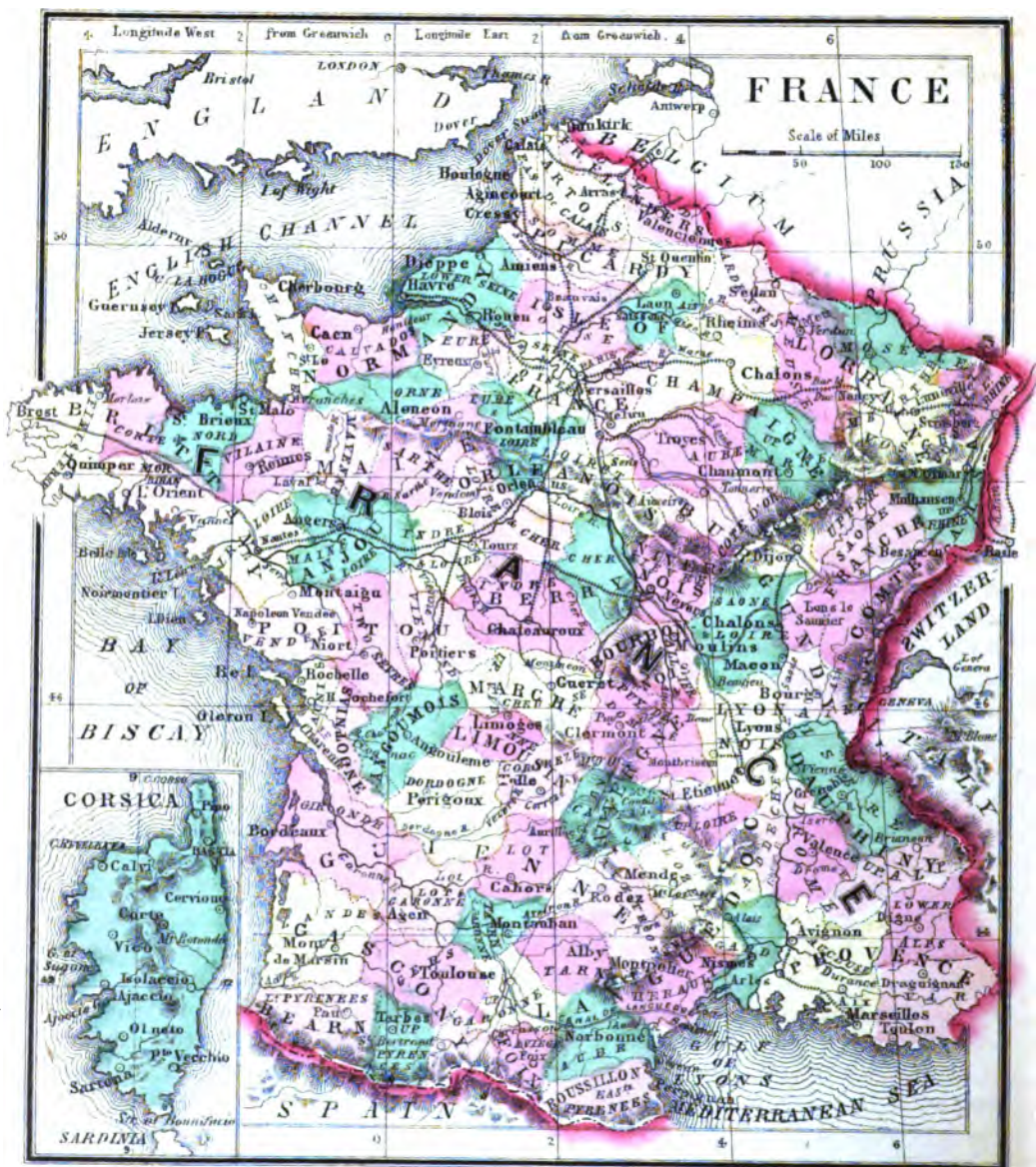
Agriculture occupies a large portion of the population—the chief crops being wheat, maize, cotton, melons, rice, oil, wine, hemp, lint, tobacco, etc. The olive is much cultivated in Otranto, Bari, and Calabria, and silk is extensively produced in the last-named province, Terra di Lavoro, and the Principati.

Manufactures are unimportant, and commerce, which is not very flourishing, is mostly concentrated in the capital.

The revenue is \$15,000,000, which is partly applied to the support of an army of 65,000 men, and a naval force of 2 ships of the line, 5 frigates, 2 corvettes, 5 brigs, 1 goelette, and 12 steamers.

THE ISLAND OF SICILY, anciently called Trinakria, from its triangular form, and now an important portion of the Two Sicilies, extends from 12° 45' to 16° 10' E. lon., and from 35° 40' to 38° 15' N. lat. It is separated from the Italian





peninsula by the Straits of Messina, which are 5 m. broad, and has an area of 11,300 sq. m. The land appears to have been first separated from Naples by some convulsion of the earth, and gradually isolated by the encroachments of the sea: the Appennines seem to pass into it under the sea from Calabria, and then to divide into two branches, from which several smaller ridges stretch into the land. The country around is divided into the torrid, temperate, and frigid zones.

Sicily is divided into seven provinces or intendencies, of which the following are the names area and population:

PROVINCES.	AREA IN SQ. M.	POP. IN 1850.	CHIEF CITIES	POP.
Caltanissetta.....	1,192	179,512	Caltanissetta....	17,292
Catania.....	1,765	379,991	Catania.....	56,100
Girgenti.....	1,877	233,187	Girgenti.....	18,569
Messina.....	1,390	349,484	Messina.....	97,074
Palermo.....	1,968	478,788	Palermo.....	167,222
Syracuse.....	1,484	237,814	Syracuse.....	10,949
Trapani.....	1,360	182,809	Trapani.....	24,927
Total.....	10,556	2,041,583		

GALLIA, OR FRANCE.

BEFORE the time of Julius Cæsar, all the land inhabited by the Galli or Celtæ was indicated by the term *Gallia*, and consequently included not only the later Gaul and the north of Italy, but a part of Spain, the greater part of Germany, the British Isles, and other countries. *Gallia Cisalpina*, at that period constituting a portion of Italy, has already been described, and *Transalpina*, or Gaul proper, comprising modern France, the Netherlands, the countries along the west bank of the Rhine, and the greatest part of Switzerland, remains to be noticed. This territory was bounded S. by the Mediterranean and Hispania, E. by the Rhine, and a line drawn from its sources to the Varus (now the Var), N. by the English Channel and the Lower Rhine, and W. by the Atlantic. "*Gallia comata*" and "*Gallia braccata*" were two other appellations in use among the Romans; the former being given to that part lying S. of the Po, and having reference to the people wearing their hair long, and to the adoption of the Roman dress and customs by the inhabitants; while the latter was given to the province of *Narbonensis*, in allusion to the brace or trowsers worn by the

people, which the Romans saw for the first time in this quarter. The Greek writers first applied the name *Celtica*, but it was used in a very extended sense, and embraced the whole of western and north-western Europe.

The primitive inhabitants were probably of Finnish origin, and these were reduced to the condition of mere vassals or serfs by the Celtæ on their immigration from the East. During the time of Cæsar, the Aquitanians, who were of Iberian origin, inhabited the country between the Pyrenees and the River Garonne; the Ligurians were located on both sides of the Maritime Alps; and the Belgians, comprising both Celts and Germans, were scattered through the north-western part, between the Lower Rhine and the Seine, extending eastward to the River Rhine. The tribes whom Cæsar calls the Celtæ; and who were in fact the Gauls proper, occupied nearly all the midland, western, and southern parts of the country, extending in one direction from Cape St. Mahe, in Bretagne, to the mountains of Switzerland and Savoy, and in another from the banks of the Garonne to those of the Seine and Marne.

Under Augustus, Gaul was divided into four provinces, viz: *Narbonensis*, *Lugdunensis*, *Belgica*, and *Aquitania*; and in this division more attention was paid to equality in extent than to any distinction of the several tribes by which they were inhabited.

Aquitania comprised not only the old territory of the *Aquitani*, in the south-west, but also all that portion of Celtic Gaul comprehended between the *Garonne* and the *Loire*.

Belgica comprised the old territory of the *Belgæ*, all that portion of Celtic Gaul lying east of the *Saone* and the range of *Mons Vosge*, and extended to the *Rhine*.

Lugdunensis comprised all that remained of Celtic Gaul, which had thus lost one-half of its former extent. Its capital was *Lugdunum*, now *Lyons*, which gave name to it.

Narbonensis was the same with what had been before the Roman province, in the south. Its new name was derived from the city of *Narbo*, its capital, now *Narbonne*.

Not long afterwards the province of *Belgica* was dismembered by two provinces being formed out of the districts along the *Rhine*, to which the names of *Germania Prima* and *Germania Secunda* or the First and Second Germany, were given; and at a subsequent period the number of provinces reached, by successive dismemberments of the larger provinces, its maximum of seventeen. These seventeen divisions were as follows: the province of *Narbonensis* comprised five; *Aquitania*, three; *Lugdunensis*, four; and *Belgica*, five.

The five subdivisions of *Narbonensis* were as follows: *Narbonensis Prima* comprehended all that portion of the old Roman province which lay between the *Rhone* and the *Pyrenees*, and answered, therefore, to the modern *Languedoc*

and *Roussillon*. *Narbonensis Secunda* corresponded to the modern *Provence*, with the exception of an eastern portion lying among the *Alps*, and excepting, also, the cities along the *Rhone*, together with *Massilia*, now *Marseilles*: its capital was *Aquæ Sextiæ*, now *Aix*. *Alpes Maritimæ* comprehended the *Alps* on the eastern side of *Provence*, and in the territory of *Nice*, together with the easternmost portion of *Dauphiny*. According to the earlier division, the eastern part of this province belonged to *Italy*: its capital was *Ebrodunum*, now *Embrun*. *Viennensis* comprehended the western part of *Savoy*, all *Dauphiné* (except the easternmost portion, which belonged to the *Alpes Maritimæ*), and the territories of *Avenio*, now *Avignon*, *Arelate*, now *Arles*, and *Massilia*, now *Marseilles*: its capital was *Vienne*, now *Vienna*. *Alpes Graiæ et Penninæ* comprehended the modern *Valais*, and the western part of *Savoy*: its capital was *Civitas Centronum*, now *Montiers*.

The three subdivisions of *Aquitania* were as follows: *Novem Populana* comprehended what had previously been *Aquitania*, or the country in the south-west between the *Pyrenees* and *Garonne*: its capital was *Ausciorum*, now *Auch*. *Aquitania Prima* comprehended the eastern half of that portion of *Gallia Celtica* which *Augustus* had added to *Aquitania proper*: its capital was *Biturigum*, now *Bourges*. *Aquitania Secunda* comprehended that part of *Guyenne* lying to the north of the *Garonne*, and also *Angoumois*, *Poitou*, *Saintonge*, and part of *Bordeois*: its capital was *Burdigalensium*, now *Bordeaux*.

The four subdivisions of *Lugdunensis* were as follows: *Lugdunensis Prima* comprehended the modern *Lyonnais*, *Bourgogne*, *Nivernois*, and a part of *Champagne*: its capital was *Lugdunum*.

now Lyons. *Lugdunensis Secunda* comprehended modern Normandie: its capital was Rotomagus, now Rouen. *Lugdunensis Tertia* comprehended modern Touraine, Le Maine, L'Anjou, and all Bretagne: its capital was Turonum, now Tours. *Lugdunensis Quarta*, or *Senonia*, which last name is derived from that of the Senones, comprehended nearly all Champagne south of the Marne (the ancient *Matrona*), the southern part of the Isle of France, Chartrain, Perche, and Orleannais: its capital was Senonum, now Sens.

The five subdivisions of Belgica were as follows: *Belgica Prima* comprehended the modern duchy of Trèves, a part of Luxembourg, and Lorraine: its capital was *Trevirorum*, now Trèves. *Belgica Secunda* comprehended the northern part of Champagne, the northern half of the Isle of France, Picardie, Artois, French Hainault, and the territory of Tournay: its capital was *Remorum*, now Rheims. *Germania Prima* comprehended all the country along the left bank of the Rhine, from the range of Mount Vocetius, an eastern arm of Jura, on the northern confines of the *Helvetii*, down to the confluence of the *Obringa* with the Rhine, near the modern Bingen: its capital was *Magontiacum*, now Mainz or Mayence.

Germania Secunda comprehended all the country along the left bank of the Rhine, from the mouth of the *Obringa* to the *Vahalis* in length, and from the Rhine to the territory of the *Nervii* in breadth: it answered, therefore, to a part of the Netherlands, and to a portion, also, of the Prussian possessions west of the Rhine: its capital was *Colonia Agrippina*, now Cologne. (The land of the *Batavi*, at this period, did not any longer belong to Gaul, but was possessed by the *Franks* and *Frisii*.)

Maxima Sequanorum comprehended all the

country which Augustus had taken from *Gallia Celtica* on the east side of the *Arar* or *Saone*: and had added to *Belgica*: it answered, therefore, to *Franche Comté*, the western half of Switzerland, and southern Alsace: its capital was *Besontium*, new Besançon

Mountains, Rivers, &c.—The principal of these are elsewhere noticed.

Character of the Inhabitants, History, &c.—Some interesting particulars of the character and history of the early inhabitants of this country are gleaned from Prof. Anthon's "System of Ancient and Mediæval Geography," a work upon which great care has evidently been bestowed, and to which we are indebted for much valuable information. "No two nations," says this excellent scholar, "were ever more contrasted in their social and political institutions than the Gauls and Germans. Among the latter, all the members of the community were freemen and warriors, wore the arms of freemen, and took their place in battle and in the deliberative assemblies of the people. The case was widely different among the Gauls. *Cæsar* informs us that throughout all Gaul there were two dignified orders; these were the sacerdotal order, or *Druids*, and the military caste. The former managed all the affairs of religion, public and private sacrifices, and were the interpreters of all divine things. It was also their business to settle all disputes, private and public. At a certain time of the year, they held a sitting in a consecrated place within the territory of the *Carnutes*, which was considered the centre of Gaul. To this assembly a final appeal was made in all controversies."

Strabo gives a somewhat different account of the dignified orders among the Gauls. He says that there were three classes of men held in great

esteem among them—the Bards, the Ouates (Vates), and the Druids: the Bards, he adds, were singers and poets; the Ouates performed sacred rites and studied the doctrine of nature; and the Druids, in addition to natural philosophy (*physiologia*), devoted themselves also to the study of ethics.

We learn from Strabo that women sometimes took part in the performances of the Druids, and that in an island near the mouth of the Loire, ceremonies were performed similar to those of Ceres and Proserpina.

The several states of Gaul were aristocratical republics. In these it was customary to elect a prince or chief governor annually, and a general was likewise appointed by the multitude to take the command in war. Strabo says that they had one peculiar custom in their assemblies: If any person present made a noise and disturbed the speaker, an officer was sent to him with a drawn sword, who at first, by threats, endeavored to enforce silence, and if not obeyed, cut off a part of the cloak of the offender, of sufficiently large size to render what remained completely useless.

Boldness, levity, and fickleness, a want of firmness and self-command, are by the ancient writers universally ascribed to the Gauls as their prominent characteristics.

The Gauls were accustomed to sleep upon the ground, and they sat on couches when they took their meals. Their food was chiefly of milk and flesh of various kinds, especially of swine, either fresh or salted. Their hogs, which were kept in the fields, were of remarkable height, strength, and swiftness, and as dangerous to those who approached them without heed as wolves. They built their houses of planks and hurdles, and of a round form, with large roofs. So numerous were

their herds of oxen and swine, that not only Rome, but the rest of Italy, were supplied from them with salt provisions.

The arms of the Gauls were commonly battle-axes and swords; but the *gæsum*, or heavy javelin, was their most remarkable weapon. The chariots, armed with scythes, used by the Britons in battle, were not peculiar to them; some of the Gauls had a similar custom of fighting, as Strabo informs us. Niebuhr's account of the appearance of a Gallic army is an extremely graphic one: "Every wealthy Gaul adorned himself with gold: even when he appeared in battle he wore golden chains upon his arms and golden rings around his neck. Their mantles, checkered, and displaying all the colors of the rainbow, are still the picturesque costume of their kindred race the Highlanders, who have laid aside the *bracæ* of the ancient Gauls. Their great bodies, long, shaggy, yellow hair, and uncouth features, made their appearance frightful; their figures, their savage courage, their immense numbers, the deafening noise of the numerous horns and trumpets in their armies, and the terrible devastation which followed their victories, paralyzed with terror the nations whom they invaded."

From the accounts of all the ancient writers, carefully compared together, the Gauls appear to have been a remarkably tall, large-bodied, fair, blue-eyed, yellow-haired people. As, however, the Germans are no longer a light-haired race, so the descendants of the Gauls have lost the yellow hair of their forefathers.

Of all the pagan nations, the Gauls appear to have had the most sanguinary rites. They may well be compared in this respect with the Ashantees, Dahomehs, and other nations of Western Africa.

Their funeral rites were connected with their notions respecting the state of the dead. They believed in a future state, and the transmigration of souls. Their funerals were, as Cæsar informs us, magnificent and sumptuous according to their means.

Historical Epochs.—The wants of an increasing population led the Celtic tribes settled in Gallia to send out two vast emigrating bodies, during the reign of the elder Tarquin at Rome, about B. C. 600. One of these entered Italy, the northern part of which was subdued and peopled by them, while the other moved eastward into Germany and what is now Hungary.

The earliest and most important of the Greek colonies settled on the Mediterranean coast was Massalia, or Massilia (now Marseilles), founded by the people of Phocæa, itself a Greek colony of Asia Minor, B. C. 600, and augmented by the emigration of the main body of the Phocæans, when they sought refuge from the pressure of the Persian monarchy.

After the close of the Punic wars, the Romans gradually extended their power in Gaul, and that portion of Transalpine Gaul which they had subdued was shortly after formed into a prætorian province (B. C. 118), of which Narbo Martius, now Narbonne, colonized the following year, became the capital.

In the migratory invasion of the Cimbri, Teutones, and Ambrones, the Roman province in Gaul was for several years the seat of war, and the Roman armies were repeatedly defeated. In one dreadful battle (B. C. 104) they are said to have lost 80,000 men. The province was, however, rescued from the invaders by the great victory obtained by Marius over the Teutones and Am-

brones near Aquæ Sextiæ, a Roman colony, now Aix. The Cimbri, meantime, had marched into Italy.

The conquests of Cæsar reduced nearly the whole country between the Rhine, the Alps, the Mediterranean, the Pyrenees, and the Ocean, into subjection to Rome; the Aquitani, and the tribes inhabiting the Alps, were not subdued till afterwards; the former were conquered by Massala, but some of the Alpine tribes retained their independence till the time of Nero.

In the decline of the Roman power, Gaul was ravaged by the Franks, the Burgundians, and the Lygians (who had been all driven out by Probus, A. D. 277); by the Bagauds, a body of peasants themselves Gauls, driven into rebellion (A. D. 284–5) by the weight of their oppressions, and the distress consequent on the ravages of the barbarians, as well as the civil dissensions of the empire; again by the Franks and the Allemanni, who were repulsed by the emperors Julian (A. D. 355 to 361) and Valentinian (A. D. 365 to 375), and by the piratical Saxons who ravaged the coasts.

The Franks (*i. e.*, the Freemen), a confederacy of German nations, were found in the fourth century settled on the right bank of the Rhine, from the junction of the River Mayn to the sea, and in the latter part of that century, and during a considerable portion of the next, appear to have been in alliance with the empire. These Franks preserved their independence even while confederated, and each tribe had its king. Like the Saxon chieftains, who all professed to derive their lineage from Woden, the Frankish princes claimed a common ancestor, Meroveus (Meerwig, "warrior of the sea"), from whom they bore the common title of Merovingians. The era of Meroveus is not ascertainable.

Upon the downfall of the Roman empire, Gaul became a prey to the barbarous nations, by which the empire was dismembered, and its nationality destroyed. On the last day of the year 406 A. D., the Rhine was crossed by a host of barbarians, who never repassed that frontier stream. They consisted of Vandals, Alans, Suevians, Burgundians, and other nations. The Vandals, who first reached the bank, were defeated by the Franks, who defended, as the allies of the empire, the approach to the frontier; but, on the arrival of the Alans, the Franks in their turn were overcome, and the passage was effected. The devastation by this horde of invaders was terrible: the inhabitants of many towns were slaughtered or carried into captivity, the sanctity of the churches was violated, and the open country laid waste. Armorica (the present Bretagne), into which the settlement of the British soldiers who had followed Maximus the usurper into Gaul, had infused a military spirit, assumed and established its independence, but the rest of Gaul became a prey.

The Suevians, the Alans, and the Vandals crossed the Pyrences into Spain; but the Burgundians settled, with the sanction of the Roman government, in the east of Gaul, on both sides of the Jura range, and on the west bank of the Rhine, from the Lake of Geneva to the confluence of the Rhine and the Moselle. The Visigoths, moreover, who had been long ravaging both the eastern and western empires, were induced, just before the settlement of the Burgundians (A. D. 412 to 414), to accept the cession of that part of Gaul which lies to the south and west of the Loire, and Toulouse became their capital. Both Burgundians and Visigoths took the name of Romans, and professed subjection, which was, however,

merely nominal, to the Emperor of the West. The lands in the district ceded to them were divided between the original possessors and the new comers, who gave up their unsettled, migratory course of life on receiving a permanent interest in the soil.

In A. D. 451, Attila, king of the Huns, with an immense host of barbarians, passed the Rhine at or near the confluence of the Neckar, destroyed Divodurum or Mediomatrici, now Metz, and Aduatua or Tongri, now Tongres, and besieged Genabum or Aureliani, now Orleans. Aëtius, the Roman general, supported by the Visigoths and the Burgundians, and numbering in his ranks Franks, Saxons, Alans, and other barbarians, advanced against Attila, and obliged him to raise the siege, and retire toward the frontier. At Durocatalaunum or Catalauni, now Chalons-sur-Marne, a battle was fought, which was attended with a dreadful slaughter of his forces, and induced Attila to evacuate Gaul.

It was not until the reign of Clovis, who commenced his career as king of the Salyans, one of the Frankish tribes settled at Tournay, about A. D. 481, that the Franks assumed a commanding position. The Empire of the West had now fallen, and Italy was under the government of the Ostrogoths; but a relic of the empire remained in Gaul, and the territory in which the patricians Ægidius and his son Syagrius upheld the name of Rome was between the possessions of the Visigoths and Burgundians and the settlements of the Franks. This territory was among the early conquests of Clovis, (A. D. 486), who then defeated the people of Tongres, and ten years afterwards subdued a portion of the Allemanns who had made an inroad into Gaul. The conquered people recognised him as their king; his opportune conversion to Chris-

tianity advanced his popularity and power in Gaul, while all the other princes, who shared among them the once-extensive territories of the empire, were the supporters of Arianism or some other form of doctrine that was looked upon as heretical. His Sway extended from the banks of the Lower Rhine to Loire, the Rhone, and the Ocean; for Armorica too, had submitted. Under the pretext of uprooting Arianism, a plea calculated to secure him numerous supporters beyond his own confines, he now determined to attack Alaric II., king of the Visigoths, whom he defeated and ruined at Vougle in Poitou. The Burgundians, hoping to share in the spoils of the conquered nation, supported Clovis, but the Ostrogoths of Italy supported the Visigoths, and prevented their entire subjection. A large part of their territory, including Bourdeaux and Toulouse, and extending, perhaps, to the foot of the Pyrenees, fell into the hands of Clovis; but the Visigoths preserved the coast of the Mediterranean, together with Spain, which they had conquered. The Ostrogoths had Provence, and their king, Theodoric, held the sovereignty of the Visigoths, also, as guardian of their king, his grandson Amalric. The assassination of the various Frankish kings by Clovis rendered him undisputed head of the tribes of his own nation, and his sovereignty extended over Gaul, with the exception of the parts retained by the Ostrogoths, Visigoths, and Burgundians. He may, therefore, be considered the real founder of the French monarchy. He died A. D. 511.

FRANCE is, as it were, in the centre of the civilized world, and for several centuries has been distinguished by the conspicuous part which it has acted on the theatre of Europe. Its population, power, situation, vast resources, and active industry, render it deserving of an attentive survey.

Boundaries.—France is bounded on the North by the English Channel, which separates it from England, and by part of the frontier of the Netherlands, and on the E. by Germany, from which it is divided by the Rhine, and by Switzerland and Italy, which lie on the other side of the Alps. Its southern limits are the Mediterranean, and the broad isthmus filled by the Pyrenees. On the W. is the Atlantic, and more especially the Bay of Biscay. The southern extremity, on the line of the Pyrenees, is in $42^{\circ} 30'$ N. latitude, the northern, beyond Dunkirk, in $51^{\circ} 10'$, making, in length, $8\frac{1}{2}^{\circ}$ of latitude. The breadth may be given from $8^{\circ} 20'$ E. to $4^{\circ} 40'$ W. longitude, making 13° of longitude. This will give dimensions, nearly square, of 595 miles from N. to S., and 550 miles from E. so W. The superficial extent is about 205,000 sq. m.

Surface.—The surface is in general level, although it borders and is encroached upon by the greatest mountain ranges of Europe. The Alps cover the full half of its eastern frontier, and their branches, extending into Dauphiny and Provence, render them very rugged and romantic regions. The Pyrenees, which rank second among the chains of the continent, range along the southern border, and cover with their branches Roussillon and Gascony. On the east, where France extends to the Rhine, are the Vosges, and other chains of moderate height, parallel to that river. The only range exclusively French is that of Auvergne, in the centre of the kingdom, which not only includes all that province, where it rises to the height of 5000 or 6000 feet, but stretches, by a winding line along the left bank of the Allior to Languedoc, parallel to the coast of the Mediterranean, where it is called the Cevennes. But by far the greater part of France, including

the whole north and west, is one widely-extended plain, which yields, in very high perfection, all the fruit and products of the temperate zone.

Rivers.—The rivers of France, though out of the first magnitude, are noble and commodious. Traversing almost every part of the kingdom, they afford ample means of internal navigation. The Loire, which is the principal, rises in the South, on the borders of Provence, and flows nearly N., parallel to the course of the Rhone and the Saône, though in an opposite direction. Near Nevers it receives the Allier, which, in a parallel, and nearly equal stream, has hitherto accompanied it. It then gradually bends round into a westerly course, which it follows through the plains of Orleansais, and Touraine, till after a course of 700 miles, it falls into the sea a little below the great commercial city of Nantes. The Rhone, rises in the heart of Switzerland, and rolls its earliest course beneath St. Gothard, Monti Rosa, and the Simflow. It then expands into the Leman lake, from whence it emerges near Geneto, where it soon enters France, and rolls direct toward Lyons. At that great city it receives the Saone, bringing down an ample stream from the Vosges, swelled by that of the Doubs, from the Jura. Now, following the direction of its tributary, it turns directly S., and after a rapid course through Dauphiny and Provence, enters the Mediterranean by several mouths. Its entire length may be 500 miles.—The Seine, though, of inferior magnitude, claims distinction as flowing by the metropolis. It rises on the frontier of Burgundy, and runs almost due North, till it receives the parallel and nearly equal Aube, when their united waters flow W. and N. W. Before reaching Paris it receives from the S. the Yonne; and from the N., almost under the walls of the capital, its greatest tributary,

the Mairne. At Paris it is navigable for vessels of considerable burden. Beyond Paris the Seine makes some extensive windings, and is augmented from the N. by the waters of the Oise, bringing those of the Aisne. It then passes the fine and flourishing city of Rouen, and spreading into an estuary, joins the English Channel at Havre.—The Garonne has a course of still less extent, though its broad, navigable stream, flowing through a magnificent plain the most productive in valuable wine of any in France, gives it a high commercial importance. It rises near the eastern Pyrenees, and flows northward to Toulouse, where it assumes a steady N. W. course, during which, swelled from the N. by the Avyron, the Lot and the Dordogne, and passing the great haven of Bordeaux, it becomes an estuary capable of receiving the largest vessels. The Rhine is to France only a liminary river for 100 miles, but its great tributaries, the Moselle and the Meuse, rise and have most of their early course within its territory.—France has no lakes of sufficient importance to notice.

Geology.—There are six districts, where the older rocks, or those of the primitive and transition class prevail, namely, Western Normandy, with Britany and Anjou: the northern side of the Pyrenees; the department of the Lower Alps, Upper Alps, and part of the Isère; Central France: Central part of the Vosges; and the Ardennes. The lower and flatter part of France, are composed of secondary and tertiary deposits, more or less covered with alluvial matters, and in some quarters intermingled with volcanic rocks. Chalk also occurs here in vast abundance. True volcanic rocks occur only in the great table-land of Central France, which is more than 80 leagues in breadth. Beside the splendid display of volcanic

rocks on its eastern part, its acclivities are covered more or less densely with newer rocks of various descriptions.

Mineralogy.—Coal of various descriptions, as glance, bituminous, and brown, are mixed in several departments, affording, however, but a small return for so vast a country.—Iron mines, some of them of considerable importance, are also found. Lead, Copper and Silver, are produced from a few scattering mines, but not to any considerable extent.

Botany.—Lamarek and De Cardolle have divided France into five regions; namely, the region of Maritime plants, which extends everywhere along the coast; the region of mountain and alpine plants; the region of the Mediterranean, constituting the great basin of the mouth of the Rhone; the region of the plains, comprising more than half of France, and especially all the plain country N. of the chains of mountains, and an intermediate region, occupying a large portion of the S. W. of France. The vegetable products are in general similar to those of England, the most important of which are wheat and other cereals, wines, beet-root, medicinal plants, and dye-woods.

Zoology.—Notwithstanding the narrowness of its separation from Great Britain, France possesses many animals unknown as natives or visitors of that island. With regard to quadrupeds, this circumstance is not surprising; for any channel of the sea, however narrow, forms an insurmountable obstacle to the wandering or migration of purely terrestrial species; while those of a semi-aquatic nature are too small and feeble to effect the passage. Among the wild quadrupeds is the wolf, which is still not uncommon in the wooded and mountainous districts; the wild boar,

which is probably not wholly extirpated; wild cat, stag, hare, rabbit, beaver, &c. The most common domestic animals are the horse, mule, oxen, sheep, goats, pigs, and numerous fowls. Of birds, the most common are the eagle, falcon, buzzard, quail, and lark. A great variety of fish abounds on the coast, of which the peculiar species of tunny and anchovy are found in the Mediterranean.

Historical Geography.—In ancient times, France formed the greater part of Transalpine Gaul. It was subjugated by Caesar, in the year 50 B. C., and formed 17 Roman Provinces. In the 5th century, the Franks established themselves in the North, the Burgundians in the East, and the Visigoths in the South. In the 6th century, the Franks extended their dominions nearly over the whole of Gaul, but Brittany, Gascony, and Languedoc preserved their independence. The power of the Franks continued to increase, and at the end of the 8th century, under Charlemagne, their empire extended in Germany N. to the Elbe, and S. E. to the Theiss, in Italy to Volturao, and in Spain to the Ebro. This empire was partitioned in the middle of the 9th century, when Germany detached itself from Gaul, which last was divided into two parts:—1. The kingdom of France, comprised between the ocean, the Pyrenees, the Mediterranean, the Rhône, Saône, Meuse, and Scheldt. 2. Lotharingia, a long strip of territory between the Rhine and the Alps, on one side, and the Scheldt, Meuse, Saône and Rhône on the other; to this, Italy was added. This state was soon again divided into the kingdom of Italy, Lorraine, and the Kingdom of Provence or Burgundy, called, also, Kingdom of Arles. These three states were successively united, nominally, to the Germanic empire. The

Kingdom of France was also parcelled out into feudal duchies, so that the king had only an empty title, until the family of Hugh Capet, who ascended the throne in 987, succeeded in uniting around their small territory the different states of France. This process of concentration progressed under succeeding reigns, and was completed at the revolution of 1798, which subjected to equal laws the 33 governments or provinces of which the monarchy was then composed, and divided them into 83 departments. Avignon and Venassin, which had been in the possession of the popes for five centuries, were soon after united to France. The wars of the revolution rapidly added to the territory. Belgium, all the countries of Germany situated to the left of the Rhine, Savoy, and Nice, were conquered, and formed into 16 new departments. This state of matters, confirmed by the treaty of Lunéville, in 1801, and by that of Amiens, in 1802, restored to France its ancient limits, those of Transalpine Gaul. By the conquests of Napoleon, the empire was afterwards extended in Italy to Garigliano, in Germany to the mouth of the Elbe, in Illyria to the Save and Cattaro, and included Holland. This gigantic extension raised the whole of Europe in opposition, and France was again confined, by the treaties of 1814-'15, to its former limits. The most remarkable events in the history of France, since the abdication of Napoleon.

PARIS.—Paris, the capital of France, and the second city of Europe, in size and population, is situated on the river Seine, 11 miles from its mouth, and contains about 1,021,000 inhabitants. This river, traversing the city in a W. N. W. direction, is navigable by barges and small steamers, and is crossed by 27 bridges, principally of stone. The city is well fortified, the recent improvements

in this respect costing about \$100,000,000. The streets in general are quite irregular and narrow; but in some of the newer parts of the city, they are wide and well-paved. The principal street is the Inner Boulevards, which is a magnificent thoroughfare, lined by trees, and containing many elegant mansions and stores. It is considered one of the finest promenades in Europe. Among the numerous squares, the first in importance is the Place de Concorde; situated between the gardens of the Tuileries and the gardens of the Champs Elysées, and adorned with a number of monuments. The "Tuileries," commenced by Catharine de Medicis, in 1564, and completed by Louis XIV., was for a long time the residence of the French sovereigns. Though irregularly built, the structure has an imposing appearance. It is surrounded by a fine park, which is one of the principal resorts of the citizens on holidays. The Louvre, immediately east of the Tuileries, was erected as a state residence, but is now occupied as a gallery of art, and forms another of the chief attractions of the capital. The Palais Royal, which is also much frequented, is surrounded by a garden, on the outskirts of which are some fine buildings, containing some of the most elegant shops in the metropolis. Luxembourg, on the south side of the Seine, is a solid and beautiful structure, and was formerly the place of meeting of the Chamber of Peers. The Elysée Bourbon is the residence of the present emperor, and has some interesting associations connected with French history. The building, though massive, is not particularly noted for beauty, either of design, or execution. Among the government buildings, the Chamber of Deputies, may be ranked first in importance. It is situated in the Palais Royal, and has an imposing front. The chamber is a semi-circular hall, fitted up in crimson and

gold. The Palais de Justice, where the principal courts are held, is an immense pile of building, situated on the W. part of the Isle de la Cité. There are a number of other buildings devoted to municipal and government purposes, but their enumeration will require too great a space, which would exclude matter more interesting to the general reader. Among the churches, which are numerous, the Cathedral of Notre Dame is most noted. It is situated on the Isle de la Cité, and is a vast cruciform structure, 390 ft. in length. The whole building is remarkable for the absence of all such "ornaments" as would detract from its real beauty. It is of an early, and pure style of architecture, and is highly finished. Among other celebrated churches, may be mentioned the church of La Madeleine, a magnificent structure, in Greek style, the pediment at the south end being the largest in the world; and the church of St. Geneviève, formerly the "Pantheon." Besides the Louvre, which has been mentioned, Paris has a great number of museums, some of the most interesting of which are: the Egyptian museum, containing a great variety of collections from Egypt; the Naval museum, containing models of all kinds of vessels; a museum of curiosities, collected from the North American Indians; "The Museum," containing collections in all branches of natural science; and the Musée d'Histoire Naturelle, which, in connection with the botanical gardens in which it stands, is one of the most attractive places of resort in the metropolis. There are a large number of galleries of paintings, some containing pictures from the most celebrated artists; and several collections of statuary. Public libraries are numerous, the largest and most valuable collection being that of the Bibliothèque Royale. It contains in all,

about 1,000,000 books and pamphlets, and 80,000 MSS., many of them of extreme rarity and interest. It has also a large collection of engravings, a gallery of sculpture, and a museum of antiquities and curiosities. There are a large number of educational institutions, the principal being the Academy. Besides the ordinary branches of education, it gives instruction in law, letters, science, theology, and medicine. The prisons are nine in number, the principal being the Abbaye, which was a perfect den of horrors during the reign of terror; the Palais du Temple, from which Louis XVI. was led forth to the scaffold; the Conciergerie, the scene of a similar tragedy to Marie Antoinette; St. Lazare, a prison for females; La Force and St. Pelagie. Besides the places of resort already mentioned, there are several others, the most noted of which is the Champs Elysées, which is more frequented than any other, particularly on holidays, by all classes of citizens. It consists of a central road, gradually widening from 300 to 700 yards, lined with trees, and presents, at all times, a gay and animated appearance. The city abounds in all manner of scientific, literary, and benevolent institutions, and public societies, of every conceivable character and design. The manufactures of Paris are numerous, among which may be mentioned, as of most importance, the following: silk and woolen goods, particularly shawls and carpets; jewelry; hardware; paper-hangings; cabinet-work; carriages; lace; embroidery; artificial flowers; combs; types; and mathematical and optical instruments. The government possesses two large manufacturing establishments—one for tapestry and carpets, expressly for the supply of the palaces; and an extensive tobacco factory, which yields an annual profit of about \$14,000,000.

The value of exports, composed chiefly of articles enumerated above, amounts to about \$11,000,000 annually.

MARSEILLE.—This city is situated in the south of France, on the east coast of the Gulf of Lion, and contains about 141,000 inhabitants. The olden portion is irregularly built, but the more modern part is well laid out in wide and straight streets. The public buildings are few in number, none of which are of sufficient importance to require special mention. The harbor, though narrow at its entrance, is one of the largest in France, and will contain 1200 vessels, and the port is the most important in the empire. ~~Marseilles is noted~~ for its extensive commerce in wines, anchovies, and cork, which are exported to all parts of the world. The manufactures are numerous and varied, the more important consisting of olive oil, liquors, perfumery, chemical products, soaps, bonnets, and shoes. There are also several tanneries, sugar, salt, and sulphur refineries, and tobacco factories.

HAVRE.—Havre is a seaport, situated on the north bank of the Seine, at its mouth, and contains about 29,000 inhabitants. The town is in general well-built, and on the outskirts are elegant villas, which give a picturesque appearance to the place. The harbor is the best and largest on this part of the French coast, and will accommodate nearly 500 vessels. Havre may be regarded as the outlet of the French empire, the port having regular communication, by steam-packets, with England, Russia, and the United States, and is the point of debarkation of a large number of European emigrants to the latter country. The aggregate tonnage of vessels belonging to the port amounts to about 75,000 tons.

BORDEAUX.—This city is situated on the S. W.

of France, on the left bank of the Garonne, and contains about 120,000 inhabitants. The newer portion of the city is well-built, and contains many fine buildings. Among the more prominent may be mentioned, the cathedral; the church of the Feuillants, containing the tomb of Montaigne; the great theatre, built by Louis XVI., and the remains of the palace of Gallienus. Bordeaux is one of the most flourishing cities in Europe, but is particularly celebrated for its wines, the commerce in which has long been very extensive. Besides the wines, the export in brandy and fruit is large. Among the principal imports are colonial merchandise, cotton goods, iron, coal, and ~~the~~ The manufactures comprise nearly all branches of ~~industry~~, the more important consisting of printed calicoes, ~~cotton~~, and woollen goods, liquors, chemical products, ~~and tobacco~~. Among the distinguished natives of Bordeaux are Montaigne; Montesquien, the Black Prince; Richard II., of England; and Pope Clement V.

NANTES.—This town is situated on the right bank of the Loire, about 208 miles S. W. of Paris, and contains 86,000 inhabitants. It is well-built, and contains among several other public buildings, a fine cathedral and an ancient castle. Besides the ship-building, which is carried on to some extent, there are numerous manufactures, the more important consisting of cottons, woolens, muslins, earthenware, and cannons. Though the port is inaccessible to vessels of a heavy tonnage, the maritime commerce is extensive. The famous edict of Nantes was proclaimed here by Henry IV., in 1598.

ROCHELLE.—Rochelle is situated nearly midway between Nantes and Bordeaux, and contains about 14,000 inhabitants. The principal trade of the town is in wines, brandies, and colonial pro-

duce ; but there is some business in the manufacture of glass and earthenware, and in sugar refining.

DUNKIRK.—Dunkirk is situated in the north part of France, and contains about 25,000 inhabitants. The chief trade is in wine, which yields a large annual revenue ; besides which, there are a number of vessels engaged in the herring and cod-fisheries.

LILLE.—Lille, situated in the northern part of France, connects, by a canal, with the Scarpe and Lys rivers, and contains a population of about 67,000. Among the public buildings, the town hall is the most interesting, having formerly been a palace of the dukes of Burgundy, and in the 16th century, the residence of Charles V. The manufactures, which are extensive, are facilitated by the canal mentioned above. The principal are : printed goods ; fine linen goods ; threads, lace, stockings, gloves, broadcloths, kerseymeres velvets ; hats ; paper ; beet-root sugar ; and mineral acids. There are also some extensive tobacco and powder-factories, belonging to the government. Lille has communication, by railroad, with many important towns in France and Belgium.

Orleans.—The city of Orleans is situated on the right bank of the Loire, 58 miles S. S. W. of Paris, and contains about 41,000 inhabitants. It is built on the ruins of the ancient Genabum, and has many fine squares. The cathedral, the most noticeable building, is one of the finest in France. The principal commerce is in wine, brandy, and vinegar, and there are manufactures in woollens, cottons, hosiery, pottery, vinegar, and saltpetre. There are also some extensive metal-foundries, and several breweries. Orleans is celebrated as the scene of many important events connected with the history of France. In 1428 it

was besieged by the English, and delivered by the "Maid of Orleans," Joan of Arc.

Versailles.—Versailles is in the northern part of France, near the Seine, and contains 35,000 inhabitants. It is noted for its magnificent palace, which is now used as a museum. The immense galleries contain a large collection of paintings and statuary, and connected with the palace is a park, containing numerous statues and fountains ; spacious flower-gardens ; and a theatre. It was built by Louis XIV., and has been the residence of many French Kings. Among the many treaties signed here, was one at which England recognized the independence of the United States of America. Among the distinguished natives of Versailles, may be mentioned : Philip V., of Spain ; Louis XV., XVI., and XVIII. ; and Charles X., of France.

Toulouse.—Toulouse is situated on the Garonne, 130 miles S. E. of Bordeaux, and contains a population of 72,000. It is one of the most ancient cities of Gaul, and has a capital said to have been founded in the time of Galba. The commerce is extensive, Toulouse being a sort of entrepôt between the interior of France and Spain ; and the manufactures are varied. The principal are cannons, woollens, silks, paper brandy, and tobacco. The battle of Toulouse was fought here on the 10th of April, 1814.

Bayonne.—Bayonne is situated in the S. W. part of France, at the confluence of the Adour and Nive, and contains about 16,000 inhabitants. It is pleasantly situated, well built, and has among other interesting objects, some fine promenades, handsome quays, and a cathedral founded in the 12th century. Its export and import trade is extensive, the former consisting chiefly of liquors, cream of tartar, hams, chocolate, cork and timber.

The imports are, principally, olive oil, liquorice, and wool. There are several distilleries, sugar-refineries, and glass works. The bayonet, which takes its name from this place, was invented here in the 17th century.

Avignon.—Avignon is in the South of France, on the left bank of the Rhone, and contains about 32,000 inhabitants. It was the residence of the Popes in the 14th century, and contains the remains of a magnificent bridge built by them, and their ancient palace, besides many Roman ruins. It is in the centre of the madder district, the cultivation of which, in the vicinity, is quite extensive. There are numerous printing establishments, foundries, forges, and manufactures of taffeta silk, and velvet, but the principal commerce is in oil, brandy, fruits and grain.

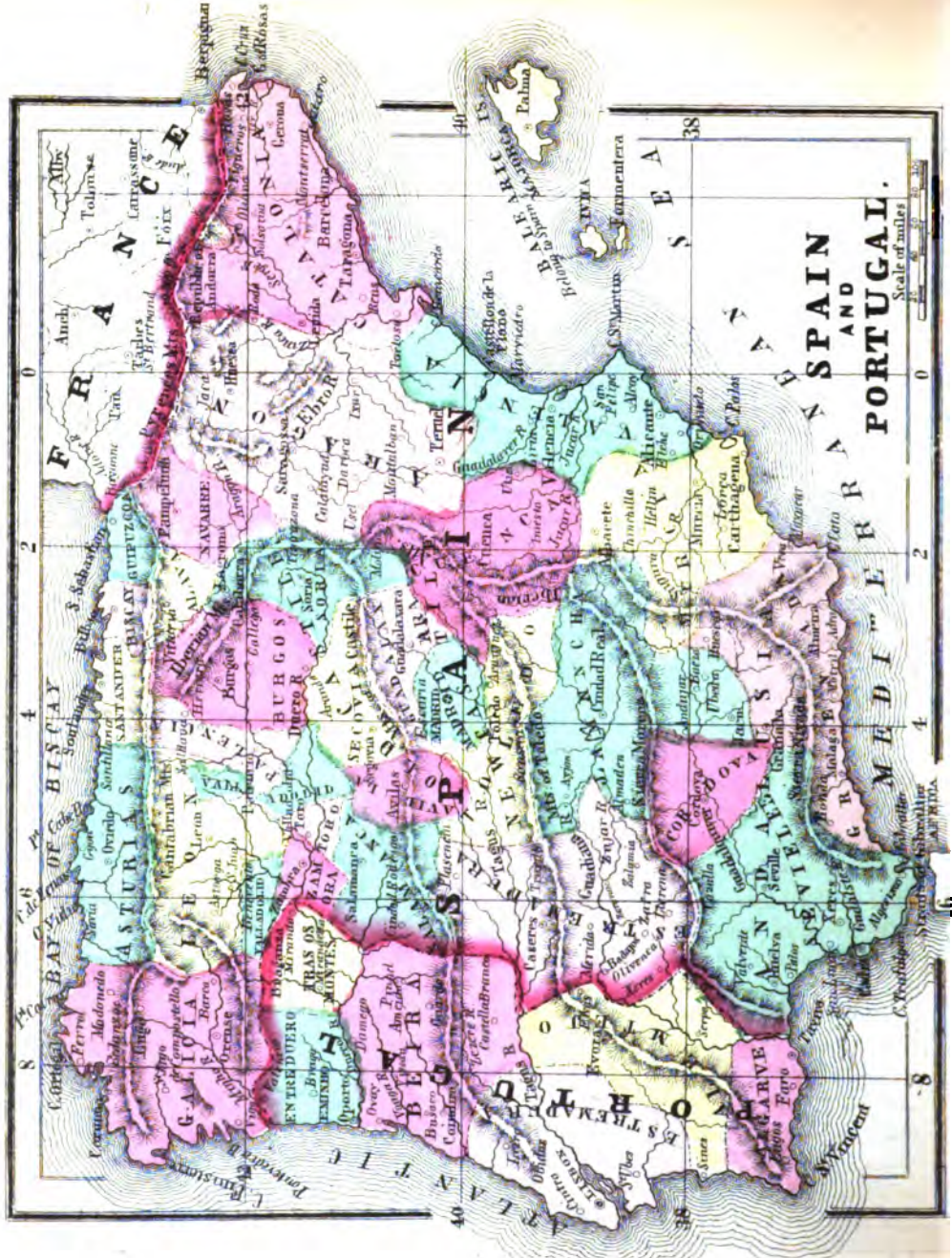
Lyons.—Lyons is situated on a peninsula on the Rhone and Saone, and is the second city of France, both in commerce and population; containing 275,000 inhabitants. The manufactures are varied and extensive, but that of silk is particularly noted, being the most celebrated in the world. It is the seat of a national court, a university, and the residence of many foreign consuls.

Rheims.—Rheims is in the north-eastern part of France, on the Vesle, and contains about 42,000 inhabitants. The streets are generally wide and straight, and the town contains several fine edifices, among which is the cathedral, in which nearly all of the French Kings have been crowned. The principal trade is in wine, but there is considerable manufacture in cloth, cassimeres, merinos, and flannels.

Strasburg.—Strasburg is situated on the eastern frontier of France, near the left bank of the Rhine, and contains about 52,000 inhabitants. It is generally well built, and has fine streets and spacious squares. The river Ill, running through the town, is crossed at numerous points by wooden bridges. Among the objects of interest, the cathedral stands pre-eminent. It is a vast structure, founded A. D. 504, and built between the 10th and 15th centuries. The building is adorned with sculpture, and has a spire 33 ft. higher than St. Peter's, at Rome. In manufactures, Strasburg is particularly noted for its leather. Among others, which are numerous, may be mentioned, as of most importance, the following: cotton, woolen, and silk fabrics; clocks, musical, mathematical, and other instruments; jewelry; cutlery; canvas, and buttons. There are also a number of copper and iron forges, distilleries, soap-factories, and a very large book-trade.

Rouen.—Rouen is situated on the right bank of the Seine, 66 miles N. W. of Paris, and contains a population of about 91,000. The newer portion of the city is well built, and contains, among other noticeable buildings, a fine cathedral, profusely adorned with sculpture, and containing the tomb of Richard I., of England. Rouen is a flourishing manufacturing district, but more particularly noted for its confectionary, and the manufacture of broadcloths, velvets, and printed cottons. It is also renowned for the spinning and dyeing of cotton and woolen stuffs. Joan of Arc was burned here, in 1431.





SPAIN
AND
PORTUGAL.

Scale of miles



SPAIN AND PORTUGAL.

THE name *Hispania*, by which the Romans designated the whole of that peninsula, now divided into the separate kingdoms of Spain and Portugal, first occurs at the time of the Roman invasion. It is usually derived from the Punic word *span*, "a rabbit," on account of the great number of these animals which the Carthaginians found in the country; but others suppose the name to be of native origin, and to be the same as the Basque *Ezpana*, "an edge or border." The Greeks (about B. C. 500) named the country *Iberia*; but this name originally indicated only the eastern coast—the western, beyond the Pillars of Hercules, being called *Tartessizs*, and the interior of the country, *Celtica*; but in later times the name *Iberia*, derived from the River *Iberus*, was applied to the entire peninsula.

Ancient Boundaries.—N. by the Pyrenees, which separated it from France, and also by the Bay of Biscay; W. by the Atlantic Ocean; E. by the Mediterranean Sea, and S. by the Atlantic and Mediterranean, which unite in the Strait of Gibraltar.

The Iberians, whose descent some Spanish writers profess to trace from Tubal, son of Noah, were beyond doubt the aborigines or first inhabitants of the Spanish peninsula, and the Celtiberi were a mixture of the Iberi and the Celts. The former dwelt on both sides of the Pyrenees, and were found in the south of Gaul as far as the Rhone; and the latter afterwards crossed the Pyrenees, and became mingled with the Iberi, whence arose the mixed race who dwelt chiefly in the high table-land in the centre of the country. But

besides this mixed race, there were also several tribes, both of Iberians and Celts, who were never united with one another—among which were the Astures, Cantabri, Vaccaei, &c. Then, too, there were the immigrating nations and the foreign settlers, who subsequently established themselves in the land: as the Celtæ Phœnicians, Phœceans, Rhodians, Massaliots, Zacynthians, Carthaginians, and Romans. Some of the Celtæ, separating from the main body, settled on both sides of the *Anas*, now Guadiana, near its mouth; while another portion of them wandered as far as the north-western extremity of the land, where later geographical writers found them under the name of Artabri. The portion, however, which had settled on the *Anas* retained their original appellation of Celtæ or Celtici.

The Phœnicians appear to have become acquainted with Spain long prior to positive history, and of course long before the foundation of either Rome or Carthage. For some time their settlements, of which Ghadir, called by the Romans Gades, now Cadiz, was the principal, were limited to the coasts of Bætica, whence they supplied the natives with the products of Asia, in exchange for the gold, silver, iron, and other valuable products of the Peninsula. But as they became better acquainted with the country, they penetrated into the interior, where they founded Kartabah, called by the Romans Corduba, and now Cordova, and explored the mountainous districts of Navarre in search of iron.

The Phœnicians, however, were not the only maritime nation which had settlements on the

coast of Spain. The Phocæans founded the town of Dianium, now Denia, and probably, also, that of Chersonesus, now Peníscola, on the eastern coast.

The Rhodians visited the shores of what is now Catalonia, and founded a town called Rhodos or Rhoda, now Rosas.

The Massaliots, or Massilians, founded the town of Emporion, now Ampurias, and the Zacynthians (from Zante) Saguntum.

The Carthaginians also directed their views towards Spain. Having insidiously possessed themselves of Cadiz, which they took from the Phœnicians, they proceeded into the interior, and attempted to subdue the country—an attempt, however, in which they completely failed. The Romans came after the Carthaginians, and succeeded in subjugating all Spain, and making it a portion of their empire. They some time afterwards, under Augustus, divided the whole peninsula into two provinces, separated from each other by the Iberus, and called the Nearer and the Farther Spain—Hispania Citerior and Ulterior—which division continued until the reign of Constantine the Great.

The tribes along the coast were, on the side immediately beyond the Straits of Hercules, a mixture of the earliest inhabitants with Phœnician settlers, and, on the Mediterranean side, with Phœnicians, Greeks, Carthaginians, and Romans. This intermingling with strangers caused all national peculiarities gradually to disappear. The traffic, too, which they carried on, disposed them the more readily to the receiving of foreign customs and habits; and hence the tribes in the interior held them in contempt, and made frequent inroads into their territories, from which inroads the communities on the coast found it difficult to

defend themselves, even with the aid of the foreigners who had settled among them.

Roman Division.—Hispania Citerior embraced a great part of the Mediterranean coast, together with as much of the country lying back of it, in the interior, as the Roman arms had thus far reduced; and Hispania Ulterior comprehended what was afterwards called Bætica. Both provinces were gradually extended, as conquests were made, and finally Lusitania was added to the latter. Various changes were subsequently made, by which we shall briefly notice the most important.

In process of time, Hispania Citerior changed its name to Tarraconensis, from Tarraco, now Tarragona, the residence of the Roman prætor, and, consequently, the capital of the province. Its limits, also, became definitely established, and extended from the River Magrada, to the mouth of the Durus, now Douro, on the Atlantic shore, comprehending all the north of Spain, together with the south as far as a line drawn from Baria, now Vera, below Carthago Nova, now Carthage, and continued upward in an oblique direction to the vicinity of Complutica, now Compludo, above Salmantica, now Salamanca, until it struck the banks of the Durus.

This was the arrangement up to the time of Augustus. That Emperor, or rather Agrippa, made an alteration in it. The province of Tarraconensis, indeed, although embracing more than two-thirds of the whole of Hispania, remained the same as before; but Hispania Ulterior, was now subdivided into two provinces, Bætica and Lusitania. The former comprised the modern Andalusia a part of the Portuguese province of Alentejo, that portion of Spanish Estremadura which lies south of the Anas, and a large part of La Mancha.—The latter comprehended modern Portugal, with

the exception of the two provinces north of the Douro, viz : Entre Douro y Minho and Tras os Montes ; and embraced, also, the greater part of Spanish Estremadura, Salamanca, and part of New Castile and Toledo.

Independently, however, of this distinction of provinces, the Romans divided the country into jurisdictions called *Conventus*—that is, judicial districts or circuits—in which the Roman proconsul or governor dispensed justice. Of these there were fourteen, each one formed of the union of several cities. This arrangement was an extremely politic one on the part of the Romans, since it tended directly to break up the nationality of the different tribes, and, of course, to confirm the Roman sway.

According to the writers of the fourth and following centuries, Spain had been again divided into seven provinces, as follows : 1, *Bætica* ; 2, *Lusitania* ; 3, *Callæcia* ; 4, *Tarraconensis* ; 5, *Carthaginiensis* ; 6, *Insulæ Balearicæ* ; 7, *Mauritania Tingitana*. This arrangement is commonly ascribed to the Emperor Hadrian, but it owed its origin, more probably, to Constantine. Of these seven provinces, moreover, *Bætica* and *Lusitania* remained the same in size as before. *Callæcia*, however, comprehended all the *Conventus* and communities north of the *Durius* and west of the *Vascones*. *Carthaginiensis*, again, had *Carthago Nova* for its capital, and answered to Murcia, a part of New Castile, and Southern Valencia. And, finally, *Tingitana* in Africa, which was then reckoned part of Spain, was added, in order to equalize the provinces as much as possible.

Historical Epochs.—Having already noticed the principal incidents connected with the early settlement of the country, we shall now hastily glance at a few other occurrences.

Until the time of Augustus, the Cantabri, the Callaici, and the Astures, who inhabited the north-western parts of the Peninsula, were not even nominally subjected to the republic ; and the other portions of Spain—*Celtiberia* in the north-east, *Bætica* in the south, and *Lusitania* in the west—became the scene of constant warfare and rebellion. The most remarkable of the native insurrections during this period was that organized in *Lusitania* by Viriathus, who, during more than eleven years, defeated the ablest generals of the republic, and was only overcome by the treachery of Cæpio, B. C. 140. Soon after this, the Peninsula became the theatre of the civil war between Marius and Sulla—Sertorius, a leader of the defeated party, having fled thither, and carrying on the war for some time with great ability and success.

Spain having espoused the cause of Pompey, Julius Cæsar repaired there in person, and by his military skill triumphed over his enemies. Cneius, the son of Pompey, was defeated at Munda, and peace restored to the country.

About the beginning of the fifth century, the Suevi, under their king Hermeric ; the Alans, under Atace, and the Vandals, or Silingi, under Gunderic, after overrunning the provinces of Gaul, crossed the Pyrenees, and settled in the Peninsula. They were speedily followed by a host of Visigoths (A. D. 411), led by their king, Athaulf, who established himself in Catalonia, though nominally dependent upon his brother-in-law Honorius, the Roman emperor.

It was not, however, until the time of Euric (A. D. 466–83), that the Goths became complete masters of the Peninsula ; and the Gothic dynasty continued until the time of Roderic, in whose reign (A. D. 711) the Arabs of Africa, commanded

by T'arik Ibn Zeyad, crossed the straits, and, after defeating the whole force of the Gothic monarchy on the banks of the Guadalete, took the capital, Toledo, the ancient Toletum. The fate of Roderic, the last king of the Goths in Spain, was never known: his horse and weapons were found near the battle-field, but his body was no where to be seen. Pelagio, a prince of the blood-royal, taking command of the remnant of the Goths, led them into the mountainous region of Asturias, and there founded a little kingdom, the boundaries of which were considerably extended by his successors, and finally swelled into some importance as the kingdom of Leon.

The Moors were at first ruled by governors appointed by the caliphs, then reigning at Damascus—the seat of the latter not being transferred to Bagdad until 754; but in 756 Prince Abderrahman founded a new empire in Spain, of which Cordova was the capital, and soon rose to be a splendid city, at one time numbering 1,000,000 inhabitants. In 778 the Moorish governor of Saragossa, who was then at war with the Emir Abderrahman, besought assistance of Charlemagne, who accordingly sent a Frankish army to Spain; and at the termination of this campaign, all the country north of the Ebro was annexed to the Frankish empire, and called the *Spanish mark* (margraviate). This was afterwards divided into two countries, Barcelona and Navarre, and the count of Navarre assuming the royal title, there were now two Christian kingdoms in Spain, which subsequently brought into existence the kingdoms of Aragon, Castile, Galicia, the principality of Catalonia, etc.

In 1139, PORTUGAL, formerly a province of the united kingdoms of Castile and Leon, became an independent kingdom.

As Christian nations multiplied, and gradually extended themselves over the country by conquest, of course the power of the Moors became proportionally restricted; and at last, in 1492, their only remaining population on the Pyrenean peninsula (Granada) was conquered by Queen Isabella of Castile and King Ferdinand of Aragon. At this time the kingdom of Aragon comprised the whole north-east part of Spain, and Castile comprised all other parts; and as Ferdinand and Isabella were united by marriage, all Spain after their death came under the sway of their son-in-law Philip, and then of their grandson, the celebrated Charles I. (Charles V., Emperor of Germany), who entailed the Spanish crown on his descendants. And here we leave it for the present.

Character, &c.—The Iberi, before they yielded to the Romans, occupied a middle station between barbarism and civilization, with a preponderance in favor of the former. They were equally formidable as cavalry and infantry; for, when the horse had broken the enemy's ranks, they dismounted and fought on foot. Their dress consisted of a sagum, or coarse woollen mantle; they wore greaves made of hair, an iron helmet adorned with a red feather, a round buckler, and a broad two-edged sword, of so fine a temper as to pierce through the enemy's armor. They were moderate in eating and drinking, especially the latter; fond of decorating their persons, of dancing and song, and of robbery and war. Their habitual drink was a sort of hydromel, or mead, brought into the country by foreign traders. The land was equally distributed, and the harvests were divided among all the citizens; the law punished with death the person who appropriated more than his just share. They were hospitable—nay, they considered it a special favor to entertain a stranger. They sacri-

ficed human victims to their divinities, and the priests pretended to read future events in their palpitating entrails. At every full moon they celebrated the festival of a god without a name, and from this circumstance their religion has been considered a corrupt deism. They were acquainted with the art of writing. The Turduli, an Iberian tribe, are said to have had among them very ancient historical records, and also written poems and laws in many thousand verses.

The Lusitani, a nation of freebooters, were distinguished by their activity and their patient endurance of fatigue. Their usual food was flour and sweet acorns; beer was their common beverage. They were swift in the race. They had a martial dance, with which the men advanced to battle.

The Turdetani were more enlightened than any other people in Bætica, and were skilled in different kinds of industry long before their neighbors. When the Phœnicians arrived on their coasts, silver was so common among them that their ordinary utensils were made of it. What was afterward done by the Spaniards in America was then done by the Phœnicians in Spain: they exchanged iron and other articles of little value for silver; nay, if ancient authors can be credited, they not only loaded their ships with the same metal, but, if their anchors at any time gave way, others of silver were used in their place.

The Callaici or Gallæci, according to the ancients, had no religious notions. The Vaccæi were the least barbarous of the Celtiberians. The fierce Cantabri had a custom for two to mount on the same horse when they went to battle. The Concani, a Cantabrian tribe, showed their ferocity by mingling the blood of horses with their drink. Among the Celtiberi, an assembly, composed of old men, was held every year, a part

of whose duty it was to examine what the women had made with their own hands within the twelve-month, and to her, whose work the assembly thought the best, a reward was given. Corpulency was considered a reproach; for, in order to preserve their bodies light and active, the men were measured every year by a cincture of a certain breadth, and some sort of punishment was inflicted upon those who had become too large.

ISLANDS ADJACENT TO HISPANIA.

In the Mediterranean.—Balears, also called Gymnesia, Majorca, and Minorca. The first signifying “to throw,” the original inhabitants having been very expert in the use of the sling. The latter name has a more general reference to the same skill in the use of missiles. The Phœnicians, it appears, were the first settlers of these islands which, however, had a race of original inhabitants. The Carthaginians, under Hanno, having made themselves masters of the whole group, proceeded to form new settlements, and founded the town of Mago, now Port Mahon, and Jamno, now Ciudadela, in the smaller one. These islands furnished them with considerable bodies of troops in their wars against Sicily and Rome, and a large force of their slingers accompanied Hannibal in his passage across the Alps. When the Carthaginians were driven from Spain, the islanders obtained their freedom, which they made use of to apply themselves to piracy, till they were subdued by the Roman consul Q. Metellus, who founded the cities of Palma and Pollentia in Majorca, and took the surname of Balearicus. They continued attached to the Roman republic as part of Hispania Citerior, and subsequently to the empire, and belonged to the Conventus of Carthago Nova. From the reign of Constantine the Great till that

of Theodosius they had their own government. When Spain, however, fell into the hands of the Vandals and Huns, a body passed over to these islands, which became an easy conquest, and afterward, with that peninsula, were subdued by the Moors.

The two small islands west of the Balearics were called by the Greeks Pityusæ, in reference to the thick growth of pine trees. They also named one Ebusus (now Iviza), celebrated for its figs, and the other Ophiussa or "Snake Island," (now Formentera) : the latter was uninhabited.

In the *Atlantic*, there are several small islands which belonged to Hispania, but they are not of sufficient consequence to require enumeration.

MADRID.—Madrid, the capital of Spain, is situated on the left bank of the Manzanares, in an arid plain, and contains about 260,000 inhabitants. The chief public buildings are the royal palace and the summer palace on the opposite side of the river ; and the palace of the Buen-retiro, founded by Philip V. The principal place of resort of the citizens is the bull-ring, a large amphitheatre, capable of containing 12,000 spectators. There are a number of public promenades, the more noted being the Prada, and the Calle d'Alcala. The manufactures are unimportant, the principal consisting of porcelain and carpets, being monopolized by the government. It was held by the French from 1808 to 1812, and Joseph, brother of Napoleon, was here enthroned king of Spain.

CORDOVA.—Cordova, situated in the Southern part of Spain, on the Guadalquivir, contains about 50,000 inhabitants. The city is ill-built and dirty. It was taken by the Moors in 672, and there are still remains of the ancient walls ; the river is crossed by a bridge built in the eighth century. Its cathedral, one of the most remarkable edifices

in Spain, was formerly a Mohammedan mosque. Cordova was once celebrated for its leather, the manufacture of which has greatly declined, and the principal branch of business is in fligree-work, and silver-smithing ; there is some manufacture in silken fabrics, hats, paper, and barrels.

CADIZ.—Cadiz is situated at the S. W. extremity of France, on the Atlantic ocean, and contains about 55,000 inhabitants. The city is built on an elevated site, principally of white stone, which gives it a fine appearance from the sea, and is well-fortified. Though the harbor is inaccessible to large vessels, the trade was once brisk, but has greatly declined since the emancipation of the Spanish colonies, and the principal business is in the import of contraband goods. There is some trade in the export of wine, provisions, metal, colonial produce, and manufactured goods.

BARCELONA.—Barcelona is situated in the N. E. of Spain, on the Mediterranean, and contains about 120,000 inhabitants. It is generally well-built, but crowded ; and contains some fine promenades. Among the interesting relics of antiquity is an old palace of the kings of Aragon. Though the harbor is poor, Barcelona is an important seaport, and carries on an extensive import and export trade. The former consists principally of raw cotton, sugar, coffee, cocoa, fish, hides, horn, and hardware ; the chief exports being wines, silks, laces, ribbons, steel, fire-arms, soap, etc.

MALAGA.—Malaga is situated on the Mediterranean, 65 miles E. N. E. of Gibraltar, at the foot of a range of mountains, and contains about 66,000 inhabitants. The streets are in general narrow and dirty, with houses built around courts ; but it has a fine promenade, containing the better class of buildings. The city is justly celebrated for its superior wines, grapes, olive-oil, figs,

almonds, rasins, and lemons, which are exported in large quantities. The imports are chiefly woolen, silk, and cotton fabrics, colonial produce, salt, fish, iron hoops, bar-iron, and nails. The manufactures comprise cigars, soap, leather, hats, paper, rope, and linen and woolen fabrics.

BILBOA.—Bilboa is situated on the Nervion, 6 miles from its mouth, and contains 12,000 inhabitants. It is enclosed by lofty mountains, is well-built, and has a fine promenade bordering the river. The principal manufactures are in hardware, leather, paper, and tobacco; and there are large rope-walks and docks for building vessels. There are also extensive iron and copper mines in the vicinity. The principal imports are cotton and woolen fabrics, and colonial produce; the exports comprise wool, iron, fish, and fruits.

SEVILLE.—Seville is situated on the left bank of the Guadalquivir, and contains a population of 85,000. The city was taken by the Moors in 711, and is still surrounded by Moorish walls, and near it is a Moorish dam. There are other interesting structures, among which are the cathedral, built in the 14th century, containing the tomb in which the remains of Columbus were first deposited; an ancient Roman tower; a Roman aqueduct, which still conveys water to the city; and the *Quemadero*, or burning-place of the Inquisition. The principal place of resort is the *plaza de toros*, or bull-ring, which will seat 14,000 persons. One of the principal manufacturing establishments is the government sugar-factory, employing 3,000 hands. There is also considerable manufacture in silks, woolen and linen goods, earthenware, leather, and iron. The principal exports are oranges, olives, and oil; the imports comprising colonial produce, English manufactures, hemp, and flax.

CARTHAGENA.—Carthagenæ is situated on the Mediterranean, and contains 28,000 inhabitants. The city is partly built upon the declivity of a hill, and partly on a plain below. It is well fortified, has a fine harbor, and is the chief naval arsenal of Spain. The manufactures, formerly flourishing, are now unimportant, the inhabitants deriving their support chiefly from the tunny fishery, which is valuable, and from the working of the mines in the vicinity. Carthagenæ was taken by Scipio, B. C. 208, at which time it was one of the richest cities in the world.

LISBON.—Lisbon, the capital of Portugal, is situated on the right bank of the Tagus, near its mouth, and contains a population of 280,000.—The newer part of the city is well built, and has many handsome squares. Among the noticeable structures is the royal palace, the residence of the sovereigns; and the aqueduct of Alcantra. There is an arsenal, ship-building docks, and government cannon, fire-arms, and powder-works. The principal imports are woolen and cotton goods, fish, butter, grain, and cheese. The exports comprise oranges, citrons, wine, oil, wool, and leather.

Oporto.—Oporto, is situated on the right bank of the Douro, 2 miles from its mouth, and contains nearly 100,000 inhabitants. It is generally, well built, and has spacious streets and squares. It is next to Lisbon, in population, and is of more importance as a manufacturing city. There are numerous silk factories, ship-yards, iron-foundries, and considerable manufacture in woolen, linen, and cotton goods, shawls, leather, earthenwares, and soap. The export trade is monopolized by English merchants, who are established here, the more important being port wine, the total export of which amounts to over 30,000 pipes annually.

BRITANNIA.

EMBRACING ENGLAND, IRELAND, SCOTLAND, AND WALES.

The word *Britannia*, is doubtless of Celtic origin, derived from *brith* or *brit*, signifying "painted," and *tan*, an element which forms part of so many other names of countries, both ancient and modern; such as *Mauri-tan-ia*, *Lusi-tan-ia*, *Kurdis-tan*, *Hindis-tan*, &c., interpreted as "region," or "country."

Situation and Extent.—The knowledge which the earlier Greeks and Romans had of this region was extremely limited, and with them it was for a long time matter of complete uncertainty whether *Britannia* was an island or a frontier of the Continent. *Cæsar* describes it as of triangular shape, one side of the triangle being opposite to Gaul, and in this he is followed by *Strabo*. Its circuit first became fully known in the time of *Agricola*, during whose government a fleet circumnavigated the island, as if to mark the extended boundary of the Roman empire; but many erroneous ideas still remained on various points connected with its position.

Divisions.—The Romans divided Britain into two main parts—*Britannia Romana* and *Britannia Barbara*; the former comprehending that portion now known as England and Wales, and the latter the rest of the island. In the fourth century of our era the island was again divided, and five provinces established, with a governor to each, as follows: 1, *Britannia Prima*; 2, *Britannia Secunda*; 3, *Flavia Cæsariensis*; 4, *Maxima Cæsariensis*; 5, *Valentia*, or *Valentiana*. The first province comprehended the country south of the Thames and British Channel; the second,

Wales, Herefordshire, Monmouthshire, and parts of Salop, and of the counties of Gloucester and Worcester; the third, the territory N. of the Thames, E. of the Severn, and probably S. of the Mersey, of the Don which joins the Yorkshire Ouse, and the Humber; the fourth, the country from the Mersey and the Humber to the wall of Severus; and the fifth, the country between the wall of Severus and the rampart of Antoninus, including the southern part of Scotland, the county of Northumberland, and part of Cumberland.—The remaining part was never long under Roman subjection, although *Agricola* established some stations in a portion which was called *Vespasiana*, and which included the country between the rampart of Antoninus and a line drawn from the Murray Frith to the mouth of the Clyde.

Early Inhabitants.—It is now generally conceded that the aborigines were a branch of that great Celtic family so widely spread over middle and western Europe. Their manners and customs were nearly identical with those of the Gauls; but, separated more than that people from intercourse with civilized nations, they preserved their peculiar religion in a purer state than their progenitors, and hence Druidism, according to *Cæsar*, was transplanted from Gaul to Britain. Welsh traditions speak of two colonies having crossed over from the neighboring Gallic countries—one from the quarter since known as Gascony, and the other from America.—At a later period the Belgæ, actuated by martial restlessness or the love of plunder, assailed the southern and eastern coasts

ENGLAND

Scale of Miles



of the island, and settled there, driving the Celts into the interior.—Some of the heroes of ancient Troy are also credited with having had some share in peopling Britannia. It has been positively asserted that when the Trojans were dispersed, on the taking of their city, they colonized in other places; and one Brutus, a Trojan prince, landed with a fleet of adventurers at Totness in Devonshire, about 1100 B. C. It is alleged that he then conquered the country, and left it to a dynasty, who governed it in different states till the Roman conquest. We are further informed by the same authority (?) that Shakspeare's Lear was one of these kings; that Lud, who founded London, was another; and that Brennus, who took and sacked Rome, at the head of a Gaulish army, B. C. 385, was a British prince of this family.

Even in these early ages, the Phœnicians and other Mediterranean traders, visited Britain for tin, and this metal seems to have been the first means of giving it importance to the ancient world.

Having now brought Britannia to a stand-point, we shall hereafter treat of each nation separately—beginning with

ENGLAND.

After Julius Cesar had conquered Gaul, he resolved to gain fresh renown by the invasion of an island which was then regarded as lying beyond the limits of the world; and in the year 55 B. C. he effected a landing with two legions on the coast of Kent, easily defeating the undisciplined forces which opposed him. Britain was then so far advanced that they had war-chariots and arms, and also a body of priests, called Druids and Bards, by whom they were chiefly governed, in 17 states or principalities. The conqueror did not long re-

tain possession of the country; for, after marching beyond the Thames, and building Dover castle, he withdrew to Rome; but in A. D. 43 the Romans made another invasion, and maintained their footing for nearly 400 years, during most of which time, notwithstanding Christianity had been introduced by them, they were constantly engaged in wars with the local and neighboring tribes, who were goaded to desperation by their injustice and oppression. In A. D. 449, Vortigene, a native prince, then engaged in a war with the Picts, and also with a rival, invited to his assistance a body of Saxons—so called from their battle-axes or *seaxes*—a race inhabiting the forests of Germany and the western shores of Central Europe, (the district watered by the Weser and Elbe,) who were far superior to the Britains in courage and enterprise. After assisting this weak prince to accomplish his objects, they made the most unreasonable demands upon him; and as these were not complied with, they turned their arms against their allies, and finally subjugated the entire island. Hengist, one of their leaders, having gained possession of Kent, founded the first kingdom of the Saxon Heptarchy; after which, six others were formed by the same race, who still continued to flock into the country. These petty kingdoms were those of Kent, the South Saxons, (Sussex,) West Saxons, East Saxons, (Essex,) the East Angles, Mercia, and Northumberland. To the Angles, who conquered and settled Norfolk and Suffolk, England is indebted for its present name,—it being derived from a village near Sleswick, called 'Anglen, whose population joined the first Saxon freebooters. In 827 all the seven kingdoms of the Saxon Heptarchy were united into one, under the government of Egbert, who repudiated the former name of Britannia, and substituted that

of Anglesland, but distinguished the island by the name of *Anglesey-ey*, in Saxon, being *island*: Egbert was therefore the first king of England. During his reign, and for many years afterwards, the Normans made frequent incursions, and sometimes overran the whole country. Alfred the Great, who reigned from 871 to 901, successfully opposed them; but about 100 years after his death, they made another inroad, and were completely victorious over all opposition: so that from 1016 to 1042 three successive Danish kings (Sven, Canute, and Hardicanute,) governed the country. In 1042, however, they were driven out, and another Saxon king (Edward II., surnamed "the Confessor,") was placed upon the throne. Meanwhile, the Normans had settled in France, and at the end of the ninth century had acquired a large tract of land, since called Normandy. William, Duke of Normandy, who was related to King Edward, claimed the English throne; and after his kinsman's death, which occurred in 1066, he invaded England at the head of 60,000 men, defeated his rival Harold, at the battle of Hastings, (Oct. 14, 1066,) and thus became King of England. He received the title of "William the Conqueror," and was the ancestor of the still-reigning family.

LONDON, the capital of Great Britain, and the largest city in the world, is situated on the Thames, about 40 miles from its mouth, and extends over an area of 122 sq. m. Its population, at the last census, was 2,362,326. The prevailing wind is the S. W., and there are few places where less rain falls. In the beginning of winter the lower parts of London especially are often enveloped in dense fogs. The city is divided into 108 parishes, of which 97 are called "without" and 11 "within" the walls, a distinction

which is merely nominal, as the walls have long since disappeared. "West End," a term used to distinguish the fashionable part of London, contains the mansions of the nobility, the club-houses, and the squares, in which reside the élite of fashion. The streets are regularly kept clean, and well-paved and lighted. The amount annually expended in paving exceeds £200,000.

The squares of London are numerous, and many of them of great extent, exceedingly elegant, and adorned with statues. The most conspicuous public monuments are "The Monument," 202 ft. high, which was erected in 1667, in commemoration of the great fire of London, the York column, 124 ft. high, surmounted by a bronze statue of the Duke of York; a fluted Corinthian column, in Trafalgar square, 176½ ft. high, raised in honor of Nelson; and a colossal equestrian statue of the Duke of Wellington.

London is supplied with gas by 20 companies, producing about 15,000,000 cubic feet of gas per day. There are 7 water companies, supplying daily 44,573,979 gallons. The principal source whence water is obtained is the Thames. Spring water from Hertfordshire is brought in by an aqueduct, 40 miles in length, including windings, and a further supply is drawn from the River Lea. Artesian wells, of excellent water, may be found in any part of the city, by boring down to the chalk. Some portions of London are well drained, but in others the drainage is imperfect. The system of sewers deserve to be ranked as one of the wonders of the metropolis.

Till the middle of the last century, the Thames was crossed by only one bridge, but now, between Chelsea and the Tower, there are eight. The lowest down, and most important of all, is London bridge, an elegant structure of granite, con-

necting the city with Southwork. The others are : Southwork bridge, also connecting the city with Southwork ; Blackfriar's bridge ; Waterloo bridge, one of the finest in the world ; Hungerford Suspension bridge, (for foot passengers only) ; Westminster bridge ; Vauxhall bridge ; and Chelsea, or Battersea bridge. The Thames tunnel, a roadway under the river, and one of the greatest wonders of the metropolis, is situated about 2 miles below London bridge. It consists of a hollow brick cylinder, or tube, subdivided into two roadways, each 15 ft. high, and 12 ft. broad.

Of the palaces, the following are particularly worthy of mention : St. James, erected by Henry VIII. ; Buckingham Palace, built by George IV. ; Whitehall ; Kensington palace, the birth-place of Queen Victoria ; and Lambeth palace, the residence of the Archbishops of Canterbury. Of the Parks, the largest and most fashionable is Hyde Park, which covers about 400 acres of ground, and is unsurpassed in beauty by any in the world. Kensington Gardens, St. James's Park, the Green Park, Regent's Park, Victoria Park, and Battersea Park, the "lungs" of the metropolis, are also worthy of note. The government offices are mostly situated near Whitehall. The Treasury, Home Office, and Board of Trade, occupy one range of handsome buildings ; the Horse Guards and Admiralty, have little to admire in their external appearance ; the Ordnance Office, in Pall Mall, is a plain building ; the post-office, in the centre of London, is a spacious and handsome building, 390 ft. long, 130 ft. wide, and 64 ft. high. The Mint, a stone building, of Grecian architecture, stands on Tower Hill, and occupies about 10,000 square yards. The celebrated "Tower," the scene of so many tragedies in English history, lies on the banks of the Thames, occupying an

area of 12 acres. On the S. side is an archway called the "Traitor's Gate," through which prisoners were brought from the river. The most ancient part of the existing edifices, the White Tower, was erected about 1078, for William the Conqueror. The Tower contains the Wellington Barracks ; the jewel-room ; the horse-armory, and the church of St. Peter and Vincula.

St. Paul's Cathedral is the greatest architectural ornament of the metropolis. It is built entirely of Portland stone, and cost only about £750,000. It contains a few monuments, among the most prominent of which are those of Lord Nelson, Sir Ralph Abercrombie, Sir John Moore, Dr. Johnson, Howard, and Sir Joshua Reynolds. Side by side, under the centre of the dome, lie interred Lord Nelson and the Duke of Wellington. After St. Paul's, Westminster Abbey is the finest ecclesiastical edifice, dating from the reign of Henry III. and Edward I.

The new palace of Westminster, or the Houses of Parliament, containing the House of Peers, the House of Commons, and the various offices connected with parliamentary business, is a vast and magnificent structure. The foundation of the building was laid in 1840. Among other important public buildings may be mentioned the Bank of England ; the Royal Exchange ; the Mansion House, the residence of the Lord Mayor ; the Guildhall ; and the East India House. There are four courts of Law,—Chancery, Common Pleas, Queen's Bench, and Exchequer. There are about a dozen criminal prisons, the principal of which are, Newgate, Bridewell, Giltspur-street Compter ; Clerkenwell ; the House of Correction ; Millbank Penitentiary ; Horsemorgen Lane Jail ; Westminster House of Correction ; and the Model Prison. The principal prisons for debtors are the

Queen's Bench and Whitecross-street prison. The British museum, containing an immense collection of books, manuscripts, sculptures, minerals, Egyptian, and other antiquities, is a spacious and imposing edifice. Of the large number of educational institutions, the principal are: the University of London; King's College; the Merchant Tailor's School; and Westminster School.

It would be almost endless to specify the different articles manufactured in London. Here are the largest breweries in the kingdom, and an immense business is carried on in the distilleries and sugar-refineries. There is an extensive manufacture in metals of all kinds; and jewelry, cabinet ware, coopering, coach-building, leather-working, ship-building, &c., are conducted on a large scale. There are numerous chemical works, soap-factories and dye-works.

The commerce of London is immense. The aggregate tonnage of vessels belonging to the port in 1850 reached 667,297; its foreign exports amounting to £14,137,527. About 5,000,000 tons of shipping enter the port annually, of which 1,500,000 are from foreign ports, 500,000 from the colonies, and 3,000,000 are coasters. The exports consist chiefly of British manufactures, though a large quantity of imports are re-exported. The exports consist of all articles of trade.

NEW WINDSOR.—This town is in the county of Berkshire, on the right bank of the Thames, and contains a population of about 10,000. The town consists chiefly of a main thoroughfare winding close around the sides of Windsor Castle. It is well built, and contains some handsome residences, and a number of churches, schools and charities. In the southern part of the town are handsome cavalry barracks. It has well supplied markets, some trade in grain, and is famous for its

ale; but the resources of the inhabitants are almost solely derived from the presence of the court, and the consequent influx of visitors. The castle is situated immediately east of the town, and is the principal residence of the sovereigns. It was built by William the Conqueror, but has received new embellishments from most of the succeeding sovereigns. The great park of Windsor comprises nearly 4,000 acres, well stocked with deer, and west of it is Windsor Forest, 56 miles in circumference.

DERBY.—Derby is situated at the head of the river Derwent, and contains a population of about 40,000. There are 31 churches, a number of public institutions, among which is a free school founded by Henry II. The town is favorably situated for manufactures and trade, having abundance of coal, and communicating by canals and railroads with a large part of England. Silk twist, ribbons, hosiery, cotton fabrics, porcelain of great beauty, and marble ornaments are made in great abundance. It has also many rolling-mills, foundries, and other metallic works, soap-factories, tanneries, bleaching-grounds, corn-mills, and malting-houses.

GOSPORT is a seaport, situated in the county of Hants, about 66 miles from London, and contains some 7,000 inhabitants, mostly engaged in government navy-works and the supply of shipping.—The town is pretty well built, and is well fortified. It has extensive barracks, a powder-magazine, and some large iron-foundries. Directly S. of the town is Haslar hospital, the largest naval infirmary in Britain.

OXFORD, is situated in the county of Oxford, between the junction of the Isis and Cherwell, and contains a population of about 28,000. It stands in an undulating amphitheatre, surrounded by

wooded meadows, and encompassed on the W., S., and E., but open towards the N. into a campaign country, and presents a magnificent appearance with its spires and domes, that of the Radcliffe being the most conspicuous. Oxford has large diocesan and national schools, numerous charitable endowments, several banks, and it had formerly many flourishing hotels, and was the centre of a large stage-coach traffic. It is chiefly supported by its university, but it has some transit trade in coals and corn facilitated by wharfs and quays on the Isis. The University of Oxford consists of 19 colleges, as follows: University College; Baliol; Merton; Exeter; Oriel; Queen's; New College; Lincoln; All Souls'; Brazen Nose; Corpus Cristi; Christ Church; Trinity; Jesus; Wadham; Pembroke; Worcester; Magdalen; and St. Johns; and St. Mary's; New Inn; St. Alban; and St. Edmund's Halls. Bodleian library, connected with the University, comprises 220,000 volumes, and 20,000 MSS., and is entitled to a copy of all new works published in the United Kingdom. There are, besides, about 23 other libraries. Oxford was a seat of learning as early as the time of Edward the Confessor, and University College claims to have been founded by Alfred. The University has sent two members to the house of Commons since the time of Edward I. In the city there are 32 churches. The principal public buildings are the Town and county-halls, a music-hall, and the several jails.

MANCHESTER is situated in the county of Lancashire near the Irwell, and contains a population of about 453,000. The town is irregularly laid out. The principal buildings are the Exchange; the Town Hall; Royal Infirmary; Lunatic Asylum; Athanæum; Royal Institution; New's Room; and Deaf and Dumb and

Blind Asylums. There are 122 churches; a large number of charitable and educational institutions; 5 banks, and 5 weekly newspapers. Scientific establishments, also, are numerous. The close proximity of an abundance of coal, the improvements introduced into spinning and weaving machinery, and the application of steam power, have raised Manchester to its present eminence in cotton manufactures, which are mostly conducted in large mills or factories. In 1853 the total number of cotton and other works was 233, employing 42,264 persons. Woolen fabrics, machinery, hats, paper, rope, twine, pins, and other goods are made in large quantities. There are many breweries, bleaching, and chemical works. The annual value of exports amount to £12,000,000.

HULL is situated on the north side of the river Humber, at the influx of the Hull, in the county of York. Population about 42,000. The town has a respectable, but not a striking appearance. Extensive warehouses, backed by narrow lanes, border the muddy river Hull. The docks, on the site previously occupied by fortifications, have an aggregate length of over 100 yards, and cover an area of 24 acres. At the head of one of them is a fine column, with a colossal statue of Wilberforce. There are 51 churches, and numerous charitable institutions. Among the most conspicuous public buildings are the custom-house; exchange; excise and stamp offices; the infirmary; concert-hall; colleges; work-house; jail; and Mansion House. Outside the N. W. suburb is a zoological garden. The principal exports are cotton and woolen stuffs and yarn; wool, hemp, flax, madder, skins, timber, earthenware, hardware, and metals, most of which is first imported from Germany, Denmark, and the Baltic. Its coasting trade is highly important, and

it receives large quantities of coal. Its merchants were the first in England who embarked in the northern whale fishery, but its fisheries have greatly declined. It connects by steam-packets with seaports in England, Denmark, and Germany. Hull is not renowned as a manufacturing town, though considerable manufacturing is carried on, 100,000 yards of cotton cloth being produced weekly. There is a considerable business in ship-building and its auxiliary manufactures; and there are a number of foundries, tanneries, potteries, breweries, sugar refineries, soap and gas works, and various corn and oil mills. This town, under the name of Myton-wyk, appears to have been of importance in the time of Athelstan; but its consequence as a port dates from the time of Henry I. In the civil wars of Charles I., it was the first town to close its gates against the king.

PORTSMOUTH.—Portsmouth is situated in the county of Hants, 95 miles S. W. from London, and is the principal naval station of England. The town, which is the most perfect fortress in Great Britain, is enclosed by bastioned ramparts, faced with masonry, and surrounded by trenches and out-works, and is in general well-built. On its W. side is an insular quarter termed the "Point," bounding its commercial port, and a seat of very active traffic in time of war. The principal buildings within the walls are the garrison, marine, and other extensive barracks, town-hall and jail; the buildings of the philosophical society, alms-house, work-house, and some large breweries. The town of Portsea forms its northern suburb, separated from it by the mill-dam creek, but enclosed within a line of fortifications connected with those of Portsmouth.

PORTSEA.—Within this town is the naval dock yard, containing basins, wet and dry docks, large

warehouses, anchor-forges, iron and copper-mills, rope-houses, and every department necessary in the construction and outfit of ships of war. Between the dock-yard and the town of Portsmouth is the gun-wharf, or arsenal, containing an armory with 20,000 stand of small arms, extensive artillery and ammunition depôts, and good quays bordering on the harbor. East of the town ramparts and outworks are Southsea, and the suburb of Southsea, frequented in summer as a watering place. On the shore facing Spithead and the Isle of Wight are Southsea castle, and further east, Cumberland and some other forts, which, with Blockhouse and Monekton forts, on the mainland S. W., protect Spithead and the approach to the harbor. Besides Portsea and Southsea, the large suburb of Landport, which extends almost to the centre of Portsea Island, is included in the borough, on the extreme limits of which are the barracks of Tipner and Hilsea. Public institutions comprise a free grammar-school, St. Paul's Academy, a mechanic's institution, savings' bank, general hospital, and female penitentiary. Portsmouth has ample communication, by means of canals, with the principal ports of England, and by steam packets with those of France. The principal imports are coal, cattle, sheep, corn, provisions, wines, and timber.

BRISTOL is situated chiefly in Gloucestershire and partly in Somersetshire, on the river Avon, and is about 118 m. distant from London. It contains a population of about 138,000. The whole city is well paved and sewered, and plentifully supplied with water. Among the principal edifices are the Cathedral, the Exchange, Bristol Institution, the Infirmary, the General Hospital, and Victoria Rooms. The Grammar-school founded in 1532, is still in a flourishing condition. There is also a

new proprietary college belonging to the Baptists ; a school of medicine ; a public library ; a law library : a Mechanics Institute ; and a number of charitable institutions. Bristol long ranked as the second commercial emporium of England, but its progress has not kept pace with that of other towns more advantageously placed as outlets of great manufacturing districts. It has large iron and brass foundries ; copper, tin, zinc and glass-works ; chemical works ; sugar refineries and distilleries ; and there is extensive manufacture of pins, shot, china, earthenwares, soap, leather, tobacco, cottons, hats and floor-cloths, and considerable ship-building is carried on. Near the city are large brick and coal works. The city retains a large share of the West India trade, the imports consisting chiefly of sugar, molasses, rum, coffee, tobacco, wine and brandy, with wool, turpentine, hemp and timber, and was the first port in Britain whence regular steam communication was established with the United States. Bristol was a fortified city as early as the 5th century. In Norman times it had a castle built by the Earl of Gloucester, son of Henry I.

HEREFORD.—Hereford is situated in a richly cultivated and beautiful valley on the river Wye, 120 miles W. N. W. from London, and contains a population of about 12,000. The principal building is the cathedral, built in 1072, in the early Norman style, which contains many fine monuments. Among the charities, for which Hereford is famous, are 11 ancient hospitals, or alm-houses. The manufactures are small, consisting of gloves, hats, flannels, and cutlery ; but there is an increasing trade in cider, corn, hops, wool, bark, and timber. The October fair, for cattle, and cheese, is the largest in England. The city is celebrated in historic records as having been the birth-place

of Nell Gwynn and David Garrick, and the school in which the genius of Clive, Siddons, and Kemble was fostered and developed.

HUNTINGDON.—Huntingdon, the birth-place of Oliver Cromwell, is situated on the north bank of the river Ouse, and contains about 6,000 inhabitants. It has 2 ancient churches, and a free grammar-school, at which the Protector was partly educated.

DARTMOUTH.—This town is situated in the county of Devonshire, and is a seaport, containing some 5,000 inhabitants. It is picturesquely built on a steep acclivity, and its dock-yard and quay project into the river. It is defended by a castle and strong batteries, and the river is navigable to the town for vessels of 150 tons burden. The principal imports are barley, wine, oil, fruit, and salt from the Mediterranean, and fish, many of the inhabitants being engaged in the pilchard and Labrador fisheries. The principal exports are woollen goods, cider, and barley.

IPSWICH.—Ipswich is situated in the county of Suffolk, on the river Orwell, and contains about 32,000 inhabitants. The town stands on a slope, sheltered, by hills, is irregularly built, but is well supplied with water, and has a thriving appearance. It has some manufactures of yarn and woollen cloths, and there are extensive iron and soap-factories, breweries, snuff-mills and docks, at which large vessels have been built. Its chief trade, however, is in the import of coal, and Baltic produce, and the export of corn.

PRESTON.—This town is situated in the county of Lancaster, on the river Ribble, and contains about 70,000 inhabitants, who are chiefly engaged in linen and cotton weaving, and spinning. There is also some trade in the fishery of the Ribble ; and iron works and tanneries.

RICHMOND.—Richmond is situated in the county of Surrey, on the right bank of the Thames, and contains about 9,000 inhabitants. Its chief importance is a place of resort for Londoners during summer, it being a beautiful place, and commanding a fine view of the surrounding country.

SUNDERLAND.—This town is situated at the mouth of the Wear, and contains of about 19,000 inhabitants. It occupies a peninsula between the expansion of the Wear and the sea, and has good and broad streets, well-lighted and paved. This is one of the principal ports of England for the shipment of coal, and has a large export of lime to Yorkshire and Scotland, and of glass, earthenware, rope and chemical products. In and around it are also flax and saw-mills, and grindstone quarries. The principal imports are flour, wine, spirits, tobacco, timber, iron, and flax. Mercantile ship-building is carried on more extensively than at any other port.

BRIGHTON.—Brighton is a seaport, in the county of Sussex, and contains a population of about 69,000. The town extends for 3 miles along the coast, and consists most wholly of elegant streets, squares, and terraces, built in good style. Among the principal structures is the suspension-chain pier, extending over a thousand feet into the sea. The fisheries of Brighton employ about 150 boats, and supply large quantities of fish to the London market.

CHATHAM.—This town is situated on the east bank of the River Medway, is well-built, paved, and lighted, and contains about 28,000 inhabitants, who are almost entirely engaged in the government works. The military and naval establishments, separated from the town by a line of fortifications, comprise large and handsome infantry, marine, engineer, and artillery-barracks, and a

noble marine-hospital. The dockyards, inferior only to those of Portsmouth and Plymouth, contains docks and building-slips for the largest vessels, with saw-mills, machinery-works, forges, roperies, &c. Moored in the river opposite are hulks for convicts who labor in the yard.

NEWCASTLE-ON-TYNE.—Newcastle-on-Tyne, in the county of Northumberland, on the N. bank of the Tyne, and contains a population of about 2,000. Early in the present century it was little more than a collection of narrow, ill-built streets, but is now one of the handsomest towns in England. The castle whence the town derives its name, is a superior structure, founded by Robert of Normandy, and in the time of the historian Leland Newcastle was the most strongly-defended town in England. The wall of Hadrian passed through the site of the town, and several of the remaining towers are employed for halls of corporate trades. It is now noted as the centre of the English trade. Within a radius of 8 miles 50 coal pits are wrought, and in 1853 about 2,200,000 tons of coal, and 18,000 tons of coke were shipped coastwise. The port comprises all the navigation of the Tyne, and communicates by steam-vessels and railroads with some of the principal manufacturing towns of England and Scotland. Extensive manufactures are carried on, principally in bottle and window-glass, machinery, leather, soap, iron wares, sheet-lead, and chemical products; besides these, there is a considerable business in ship and boat-building, and rope and sail-making; metal from the Stanhope mines, bricks, tar, and grindstones are among the chief exports. Newcastle is the seat of literary, philosophical, historical, law, medical, and other societies, and a great variety of endowed charities.

CAMBRIDGE.—Cambridge is situated in the

county of Cambridge, and contains about 27,000 inhabitants. The town is in an extensive flat, and the streets are, with few exceptions, narrow, winding, and irregular. Its chief importance is derived from its being the seat of one of the great universities of England. Connected with the university are the senate-house, observatory, printing-office, and museum. Two members chosen by the senate, are sent to the House of Commons. Distinct from the university, there is a grammar-school; founded in 1516, and a national school, with 600 pupils. There are also 25 churches, and a number of charities.

YORK.—York, the second city of England in point of rank, though not in size or commercial importance, is situated in the centre of the county of Yorkshire, on the river Ouse, and contains about 36,000 inhabitants. The city is enclosed by ancient walls, flanked with towers, and forming a fine promenade. It is well-built, and generally handsome. Except the celebrated castle, occupying nearly 4 acres between the Ouse and Forse, which rivers traverse the centre of the city, the public edifices are on the north of the city. At the head of these is Yorkminster, or cathedral, the finest structure of the kind in England, mostly built in the 13th and 14th centuries. Among other public buildings may be mentioned the Chapter House; the Mansion House; the Guild-hall, a noble Gothic structure of the 15th century; the buildings of the Yorkshire Philosophical Society, museum, and city jail. The churches number 40. York has several Roman antiquities, among them the remains of an abbey founded by William Rufus, and of a college founded by Henry VI. Several commercial corporations exist, and glass and iron wares, carpet, linens, woollens, paper hangings, red and white lead, and many articles of

luxury are manufactured; but its chief prosperity is due to its being resorted to by the gentry of the northern part of England. Large sales of horses, cattle, etc., take place twice a month. Under the Saxons it was successively the capital of the kingdoms of Northumberland and Deira.

BERWICK-ON-TWEED.—This fortified sea-port town is situated on the N. bank of the Tweed, in Northumberland county, and contains a population of about 10,000. It is connected with its suburbs by a stone bridge, built in the reign of Charles I. The principal manufactures are sail-cloth, cordage, and linen fabrics. Near the town are several coal mines. Berwick has a considerable trade with Norway and the Baltic, whence it imports timber, staves, bones, iron, hemp, tallow, oil; it also exports to London, Leith, Newcastle and Hull, agricultural produce, coal, wool, ale, whiskey, fish—especially salmon, its fishery of which, in the Tweed, is very productive.

WORCESTER.—Worcester is situated on the left bank of the river Severn, in the county of Worcester, and contains a population of about 27,000. The streets are well laid out, and it is one of the best-built and handsomest towns in the kingdom. There are 35 churches, a great variety of charities, and a number of educational institutions. The principal manufactures are china-ware, turned wares, nails, spirits, leather, lace, and gloves. There are extensive iron works; and the city is the centre of an extensive trade in corn and hops, being the entrepot for a large and populous district. Worcester, under the name of *Caer Guarangon* was one of the principal cities of the ancient Britons.

SOUTHAMPTON.—This seaport is situated in the south part of the county of Hants, occupying a peninsula between the mouths of the Test and

Itchin rivers, and contains about 35,000 inhabitants. The West India, Mediterranean, and other mails have their station here, and the town communicates by steamers, with all the ports of S. England, the Channel islands, and Ireland, and by railroad with London and all the centre of England. There are some manufactures of silks and carpets, but ship-building and general commerce are the chief sources of wealth.

GREENWICH.—The town of Greenwich is situated on the south bank of the river Thames, and contains a population of about 100,000. It is mostly well-built, though many of the streets are narrow. Its chief edifices are the naval hospital and Royal Observatory. The hospital is the noblest establishment of the kind in Europe, and the finest palatial structure in England. It was commenced in the reign of Charles II., and contains dormitories and dining-halls for about 2,700 old or disabled seamen, a beautiful chapel, and a spacious hall, decorated with paintings, statues, and portraits of naval heroes. The Royal Observatory is situated on an eminence in Greenwich Park, 160 feet above the river. This observatory was founded by Charles II., in 1674, and is now the greatest seat of astronomical observation in the world. From it are reckoned the longitude of all charts published in the English language. Greenwich has 70 churches, a variety of charitable endowments, and a number of educational establishments, besides the naval school connected with the hospital.

PLYMOUTH.—Plymouth, a sea-port and naval station of England, is situated in the county of Devon, on the east side of a peninsula between the rivers Plymouth and Tamar, at the head of Plymouth sound. Population, about 52,000. The town is irregularly laid out, but the buildings have

a substantial appearance. Between it and the sound is the Hoe, a fine open space, surmounting a cliff, on which is the citadel, a bastioned fortress, containing a governor's residence, and extensive barracks. Plymouth has a large trade with London, Bristol, Newcastle and Newport. It imports considerable W. India colonial produce and timber from the Baltic and North America, and it has manufactures of sail-cloth, refined sugar, glass, soap, and starch. It contains, also, a large distillery, and has extensive pilchard and other fisheries. Its institutions comprise a grammar and other schools; a natural history society; public, medical, law, and theological libraries; a Mechanics' Institute; and a number of charitable institutions.

WOOLWICH.—Woolwich is a naval town of England, situated in the county of Kent, about 9 miles E. S. E. from London, and contains a population of about 28,000. The town is about a mile in length. The dock-yard, the most ancient in the kingdom, contains some fine new docks. Woolwich has the largest arsenal in Britain, covering more than 100 acres, and containing nearly 24,000 pieces of ordnance, besides other warlike materials for the army and navy, a royal laboratory, &c. It is the head-quarters of the royal horse and foot artillery, and royal sappers and miners, for whom there are extensive barracks, and is the seat of a military academy.

CHESTER.—Chester is situated on the Dee, and is about 21 miles S. S. E. from Liverpool. Population about 27,000. Stands on a rocky elevation, enclosed by ancient and massive walls. Among the principal edifices are the castle, comprising barracks and armory, with nearly 30,000 stand of arms, and some fine church-buildings. There are, in all 35 churches, and very numerous

charities and educational institutions. Except ship-building, manufactures are of little consequence, and commerce has greatly declined. Vessels of 600 tons can approach the city, which exports cheese, copper-plates, cast-iron, and coal, and imports wines and other S. European produce, and Irish provisions.

DOVER.—Dover is situated in the county of Kent, on the N. W. side of Dover straits, and contains about 22,000 inhabitants. The town consists of an old collection of streets, and a long street on the banks of a small stream, the whole enclosed by chalk-downs, on which are the castle, citadel, and several strong forts. The castle is a collection of formidable works, occupying 35 acres. Its foundation has been attributed to the Romans, and it contains Roman and Saxon towers, a bomb-proof magazine, and barracks for 2000 men. Other principal edifices are a military hospital, the town-hall and jail, and the hospital *Maison-Dieu*. Dover is the chief port of communication between England and the continent, and has continual intercourse by steamboats with Calais and Boulogne. It imports large quantities of eggs, fruit, and other rural produce from France, and has a thriving coasting-trade and fishery. There is also considerable business done in ship-building and sail, rope, and paper making.

BATH.—The city of Bath is situated on the Avon river, in the county of Somerset, and contains a population of about 55,000, which is frequently augmented in summer by the addition of 14,000 visitors. Bath was known to the Romans under the name of *Aqua Solis*, and baths were erected in the reign of Claudius. The earliest charter, extant is that of Richard I., which was confirmed by Richard III. The city is built of white free-stone, and is considered the handsomest

city in Great Britain. It has 61 churches, 28 of which are Episcopal, and 12 Methodist, the rest of which are divided between the various religious bodies. In the western part of the city is the Royal Victoria Park, and it has various other promenades and places of public recreation, among which are the Sidney Gardens. The hot springs, to which the city owes its importance, are saline and chalybeate. They rise immediately on the bank of the river, and supply five distinct establishments—the King's, Queen's, Cross, Hot, and Abbey baths. Bath has many educational and other establishments, among which are a Grammar School, founded by Edward VI.; Partis' College; the Hospital of St. John the Baptist; a Roman Catholic Collegiate establishment; and a Mechanics' Institute. The city is well situated for purposes of general commerce. Until recently, an extensive manufacture in coarse woolens, termed "Bath Coating," was carried on to a great extent, but has greatly declined.

COWES.—*West Cowes*, a seaport and watering-place, is situated on the Isle of Wight, at the west side of the River Medina. Population about 5,000. At the angle formed by the river and sea, termed Egypt point, is a battery originally built by Henry VIII. It has a good bathing establishment, and docks for shipping and ship-building. Its coasting trade consists chiefly of exports of agricultural produce and malt; and imports, coal, colonial produce, and manufactured goods. *East Cowes*, on the east side of the river, has some good residences, a custom house for the port; and the marine residence of Queen Victoria.

BIRMINGHAM.—Birmingham, one of the principal manufacturing towns, is situated near the centre of England, and contains a population of about 250,000. The lower part of the town con-

mists of old houses and workshops, in narrow and crooked streets. In its centre is a handsome quarter, rivalling in appearance the best parts of the metropolis, and containing the Town-hall, Edward VI.'s Grammar School, Queen's College, and other edifices. The uneven ground on which the town is built facilitates its drainage, and contributes to its salubrity. The superb Town-hall, one of the finest edifices in England, occupies a commanding site, and can conveniently accommodate 8,000 persons. The principal educational institutions are the free Grammar School and Queen's College. There are 92 churches, divided between the different religious bodies. Besides the noteworthy buildings above-mentioned, there is a large hospital; dispensary; athanæum; a Roman Catholic cathedral; and others of less note. Among the public institutions may be mentioned a Society of Arts; a Drawing Academy; Library; and Mechanics' Institution; horticultural and statistical societies; and a Botanic Garden. The manufactures of Birmingham comprise almost every description of iron and steel goods; brass and iron founding; saddlery, fire-arms, cuttlery; gold, silver, bronze and japaned wares, and all kinds of machinery. The annual value of the manufactures is estimated at \$20,000,000. The condition of the artisans will compare favorably with that of those in any other manufacturing town in England. It is computed that 20,000 families are employed in trade, manufactures, and handicraft. The immense coal and iron beds, by which Birmingham is surrounded, may be regarded as the main source of its manufacturing prosperity, which has also been aided by canals and railroads, which bring the principal rivers and towns of England within a few hours' journey.

LIVERPOOL.—Liverpool, next to London, the

principal seaport of England, is situated on the E. bank of the river Mersey, about four miles from the Irish Sea, and contains a population of about 287,000 souls. It extends about 5 miles in length, and 2½ miles at its greatest breadth. Though irregularly laid out, it has many broad and handsome streets. Some idea of the immense commerce of this port may be formed when it is remembered that the aggregate area of wet docks now in use, amounts to nearly 200 acres, and the dry docks over 20 acres, the quay space being nearly 13 miles in length. The mercantile marine of Liverpool is inferior only to that of New-York. There belonged to the port, in 1852, 1861 sailing vessels, of the aggregate burden of 613,505 tons, and 128 steamers, of 19,480 tons. Though the dock accommodation is so enormous, the exigencies of traffic demand more. The burden of vessels paying dock-dues, amounts to nearly 4,000,000 tons a year. The amount of revenue from various countries, was, in 1852, £254,470, of which a fraction less than one-half was from the United States. Liverpool is supplied with water pumped from wells in the red sandstone, into receiving reservoirs, from which it is distributed throughout the city. It is good in quality, but deficient in quantity. The streets, until lately, were in many places, destitute of paving, but an improvement in this respect has recently taken place. Sewerage, though also hitherto neglected, has recently received attention, and the streets and houses are now well drained. The principal public buildings are the Town-hall, containing various offices connected with the management of the municipal business; the Custom-house, comprising, also, the excise, post, and stamp-offices; and the Exchange. A new Concert-hall has also been erected, of colossal dimensions. There are about 160 churches,

divided between the different denominations, the Methodists holding a larger number than any other society. Among the educational institutions are the Liverpool Royal Institution, which has a fine museum, and an extensive library; the Collegiate; the Mechanic's Institute; a medical school; and several schools belonging to the different religious bodies. There are a number of hospitals, dispensaries, charitable institutions, and public baths.—The city has 10 banks, in addition to the Bank of England (a branch of which is located here), and the Commercial Bank of Liverpool. There are 10 newspapers published. The manufacture of watches and jewelry is carried on to some extent; and there are some large sugar refineries; foundries, breweries, rope, glass, and chemical works.—Being the seat of a great foreign export and import trade, a large number of vessels are yearly built. The entire value of produce imported into Liverpool amounts to nearly £40,000,000 a-year. The city is connected by railroad and canals to all the great towns of England, and by steam-packets with Glasgow, Dublin, Cork, Bristol, London, and the principal ports of America.

SHEFFIELD.—Sheffield is situated at the confluence of the Don and Sheaf rivers, and contains a population of about 135,000. It occupies the bottom and sides of several low hills, and in its newer parts is pretty well built, though from the smoke of its numerous furnaces it presents a dingy appearance, in the midst of the beautiful scenery which surrounds it. There are several fine buildings, a number of educational institutions, and 70 churches. The cutlery made at Sheffield has long been famous, as perhaps the best in the world.—Other important manufactures are heavy iron and steel goods, plated wares, fine metallic instruments, printing types, files, and steel. Coal is abundant,

and some iron is raised. The Don is navigable up to the town, and the canal basin is available for vessels of 50 tons.

NORWICH.—Norwich is situated in the county of Norfolk, on the river Yare or Wensom, 100 miles N. N. E. from London, and contains a population of about 68,000. Near the centre of the city is the castle, a massive Norman keep, now used as a prison. The cathedral, built between the 11th and 16th century, is a handsome structure, 411 ft. in length, 191 ft. in breadth, and surmounted with a spire 315 ft. in height. There are also a number of churches, schools, and other public buildings. The manufactures are quite extensive, consisting chiefly of bandanas, bombazines, shawls, gauzes, crape, and silk fabrics of various kinds. Besides the large woolen, silk, worsted, and cotton mills, there are snuff, oil, mustard, and corn mills; breweries and dyeing works.

YARMOUTH.—This town stands on a narrow slip of land, between the sea and the river Yare, in the county of Norfolk, and contains a population of about 26,000. On the coast are several batteries, barracks for 1000 men, and a few public gardens and promenades. Yarmouth is the principal seat of the English herring-fishery, which employs about 240 vessels, and 3,000 persons. In addition to the herring, and other fish, there is a large export in agricultural produce and malt. Ship-building is extensively carried on, and there is some manufacture in crapes and silk goods. Yarmouth has communication by steam-packets, with London, Hull, and other ports.

LEEDS.—Leeds, situated on the N. side of the Aire, in the county of York, and contains a population of about 173,000. It stands on a declivity, and is upwards of 1½ miles in length, by about 1 mile in breadth. It is irregularly laid out, but has

several spacious thoroughfares. The position of Leeds, in a coal district, and having abundant means of communication with the great seats of commerce, has been the source of its eminence as a seat of manufacture—it being the principal woolen manufacturing town of England. There are 150 factories in the town, employing about 21,000 persons. Its principal woolen fabrics consist of the finest broadcloth, kerseymeres, swan-downs, and beavers; in addition, carpets, blankets, camlets and shalloons are woven, and large quantities of unfinished stuffs are brought from Bradford and Halifax to Leeds, to be finished. Linen yarn, canvas, sacking, and linen cloth, are the chief flaxen goods produced. The factories for locomotives, tools, glass, pottery; tobacco and soap, are also extensive. It is connected by railroads and canals with the principal manufacturing towns and sea-ports of England.

WINCHESTER.—Winchester is situated on the right bank of the river Itchin, and contains about 13,000 inhabitants. The ancient city was enclosed by walls, of which the site only is now traceable. Among other important edifices is the cathedral, supposed to have been founded in the 2d century. It contains the tomb of William Rufus, and in a series of carved chests are the remains of many of the kings of Wessex, and of the Saxon kings of England. Under the name of *Caer Gwent*, it was one of the most important cities of the ancient Britons, and was a principal residence of the sovereigns down to the accession of George I. Henry III. was born here, in 1207, and here Henry VIII. entertained the emperor Charles V. There are several churches, colleges, hospitals, and other public buildings.

WHITEHAVEN.—Whitehaven is situated on the Irish Sea, near the entrance of Solway Firth, and

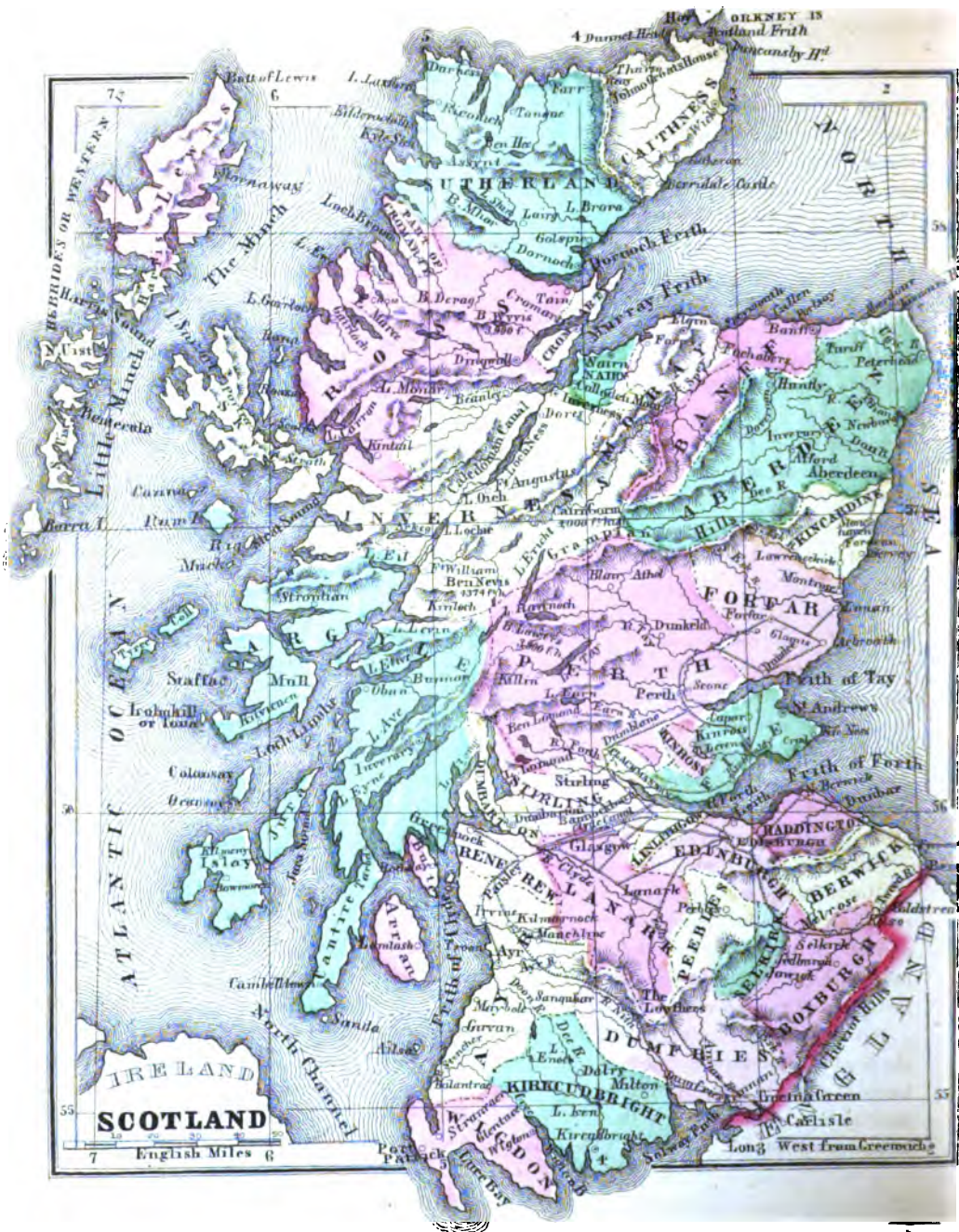
contains about 18,000 inhabitants. The streets are spacious and well laid out, and has good shops, a convenient market-place, and beautiful environs. Coal is abundant, raised from the deepest known coal mines, which extend under the town and beneath the sea. There are also iron smelting works, iron and brass-foundries, extensive bonding warehouses, dry-docks, and slips for building vessels. Exports considerable coal and iron ore. Imports West Indian, American and Baltic produce; flax and linen from Ireland, and pig-iron from Wales. Steamers maintain constant communication between Dublin, Dumfries, and the Isle of Man.

W A L E S .

THE BRITANNIA SECUNDA of the Romans, claims to have been first settled by the descendants of a people on the Euxine, called Cymry, or Kimri, who were conducted to Britain by Hu the Mighty, whose son Prydain established a government and gave his name to the country. The language of the first settlers was the same as that spoken in Wales at the present time, of which the Irish, and Erse of the Scotch highlands, are dialects, similar to the Phœnician and Carthaginian, with many Greek words; and their religion was the worship of the sun and fire, such as prevailed in the countries near the Euxine. The lineal successors of Hu and Prydain maintained the government, according to some writers, until the arrival of the Trojan Prince Brutus and his followers, already noticed, to whom they were obliged to succumb.

The Druids were the priests, administrators of justice, poets, and teachers of the people, and were barbarously persecuted by the Romans on account of their influence. Despite their superstition, and belief in elves, demons, charms, &c., their moral maxims were admirable, and were ex-





pressed in triads to aid the memory. It is not unworthy of note that in one of their triads, mention is made of Gavran, who "went to sea in search of Gwerddonau Llion (the green islands of the sea), which accords with a popular tradition that a Welsh prince in an early age undertook a voyage of discovery.

For a long period the Welsh struggled bravely—first with the Romans, and afterwards with the Anglo-Saxons—to maintain their independence; but their success was not equal to their courage or patriotism. In the thirteenth century, having been subdued by Edward I., they became tributary to England, and all subsequent attempts to shake off its fetters only rivetted them more firmly, until, in 1536, they were completely incorporated into the British monarchy in the reign of Henry VIII.

SWANSEA.—This sea-port town is situated in the county of Glamorgan, on the west side of the Tawy, at its mouth, and contains about 31,000 inhabitants. It is well-built, and has a good harbor. It has iron foundries, potteries, tanneries, and rope-walks, but its chief trade is in the export of coal, and in smelting copper ore. The imports consist chiefly of ores, limestone, rotten-stone, tin-plates, timber, and provisions.

TREDEGAR.—This town is situated in the county of Monmouth, 16 miles N. W. of Newport; and contains a population of about 23,000. The place derives its importance from its extensive coal mines and iron works, the principal export trade being that of iron and coal.

BANGOR.—Bangor is situated in a fine valley at the head of Beaumaris bay, and contains a population of about 10,000. Among the buildings in the city the most interesting is the cathedral, said to have been founded about 625. The principal

trade is in the manufacture of slate, the export of which is facilitated by a good harbor, the bay admitting large vessels.

CARNARVON.—Carnarvon is found in the county of the same name, on the east side of the Menai strait, and contains a population of about 9,000. The town proper is enclosed by walls, outside of which is a fine terrace-walk along the strait, and a bathing establishment. The most interesting edifice is the castle, built by Edward I., in which Edward II., the first Anglo-Norman Prince of Wales, was born. The principal business is in slate and coal, which are exported to some extent.

CALEDONIA, OR SCOTLAND.

CALEDONIA was the original appellation bestowed upon a great portion of the country now constituting Scotland. Its inhabitants were divided into five tribes, known by the general appellation of the *Maetæ*; and beyond these wandered, amid the lakes and mountains, various clans, among which the Caledonians claimed the praise of superior courage or superior ferocity. In A. D. 120, the inroads of the Caledonians compelled Adrian to repair to the scene of strife, where, in defence of Southern Britain, he drew a rampart and a ditch across the island, from the Solway Firth on the western, to the mouth of the Tyne on the eastern coast. It is remarkable that in the 4th century, the Caledonians and *Maetæ* disappeared from history, the Picts and Scots taking their place. Dr. Lingard thus accounts for it: "To me it seems manifest that the Picts were, under a new denomination, the very same people whom we have hitherto called *Maetæ* and Caledonians. The name of Caledonians properly belongs to the nations of that long but narrow strip of land which stretches from Loch

Fine on the western, to the Firth of Tyne on the eastern coast; but it had been extended by the Romans to all the kindred and independent clans which lay between them and the northern extremity of the island. In the fourth century, the mistake was discovered and rectified, and from that time not only the Caledonians, but their southern neighbors, the five tribes of the *Maætæ*, began to be known by the generic appellation of Picts, a word derived, perhaps, from the national custom of painting the body, or more probably from the name which they bore in their own language. The Scots came undoubtedly from Ireland, which, like its sister island, appears to have been colonized by adventurers from different countries. It is not improbable that the Scots were the most numerous tribe in the interior of the island, and a division of the great Celtic family of the Cotti. At last the strangers acquired so marked a superiority over the indigenous tribes, as to impart the name of Scotland to the northern division.

It would be of little service to enumerate what constituted the ancient boundaries of this territory; for they were almost constantly changing, either owing to intestine wars among the various tribes, or to such arrangements as the policy of their more powerful neighbors dictated.

What remains of the history of this country may be summed up in very few words. In 836 the Picts, having subdued all the lesser tribes, became the ruling people, occasionally intermingling with the Angles and Saxons; but in the ninth century, their power was wrested from them, and they gave place to a race of kings of the house of Kenneth, who maintained their supremacy until 1289, when the last of the line expired. A bitter and bloody contest for the crown succeeded between Bruce and Baliol, and

finally resulted in favor of the former. In 1603 James VI. of Scotland, son of Mary Stuart, became also, by right of descent, James I. of England, and thus the two kingdoms were united.

EDINBURGH.—Edinburgh, the metropolis of Scotland, is situated on the S. bank of the river Forth, is 392 miles north of London, and contains about 160,000 inhabitants. The city is picturesquely situated between two ridges of hills. The old town occupies the elevated ridge which terminates on the west by the rocky eminence of Castle Hill, the new town extending further to the north. In the former, among other conspicuous buildings, may be mentioned—the High Church of St. Giles, built in the cathedral style; the Assembly Hall; the Parliament House, built in 1632; the abbey and palace of Holyrood, founded in 1128, by David I., the N. W. tower of which, containing Queen Mary's apartments, has been preserved, and incorporated with more modern buildings, the rest of the palace being in ruins; the castle; the University; and a naval and military academy. The University is one of the great features of Edinburgh. It was founded in 1580, by James VI. The building forms a large quadrangle, with a spacious court in the centre, and contains a library with about 91,000 books, besides numerous manuscripts. Connected with the institution, also, in a large museum and classroom for the professors, 32 in number. In the new town, among other objects of interest are: Lord Melville's monument; Sir Walter Scott's monument; the national monument on Calton Hill; and the astronomical observatory.—Besides the University, the city contains several colleges, ecclesiastical and medical; a number of minor schools, of various character, and many churches, of all creeds. The charities, also, are numerous;

conspicuous among them is Trinity hospital, founded in 1461, by Mary of Gueldress, consort of James II.; and George Heriot's hospital, founded in 1624. The trade of Edinburgh is not extensive, being generally retail. The city is noted as a printing and publishing centre, and a large amount of its business is in some way connected with literature. The situation of Edinburgh is unrivalled for the salubrity of its temperature, and the beauty of its scenery.

GLASGOW.—Glasgow is situated on the river Clyde, 43 miles W. of Edinburgh, and contains about 340,000 inhabitants. The city is built on a gentle declivity, and is about $4\frac{1}{2}$ miles long and 2 miles wide. First among objects of interest may be mentioned the cathedral of St. Mungo, the university, and Andersonian university. The cathedral is a Gothic structure, reputed to have been founded by Achaius, bishop of Glasgow, in the 12th century. Immediately to the east, in the High-street, is the university, founded in 1450 by Pope Nicholas V. It is well endowed, and has an annual income of about £20,000. It has 20 professors, and connected with the institution is a library with about 60,000 volumes, a museum, an astronomical observatory, and a botanical garden. The Andersonian university was founded in 1795, for the benefit of all classes. Churches and charitable institutions are numerous. Among the former may be mentioned St. George's, St. Enoch's, St. Andrew's, St. John's, and St. David's, as having the finest edifices. Glasgow is celebrated as the great mart of Scotland. The aggregate tonnage of vessels entering this port annually amounts to nearly a million and a half tons. The manufacture of cotton goods is carried on to a great extent, as is also woollens, silks, and glass and stone-ware. There are some very extensive chem-

ical works, and iron foundries. The coal mines in the vicinity are very productive. Besides its export, which amounts to 200,000 tons a year, the domestic consumption is estimated at nearly two million of tons. This city has long been distinguished for its superiority in the art of printing, and it is the seat of considerable publishing. Glasgow was created a borough of regality by William the Lion, in the 12th century.

ABERDEEN.—This sea-port is situated in Aberdeenshire, between the Don and Dee, at their entrance into the North Sea. Old Aberdeen, on the Don having but little trade, depends on its university for support. New Aberdeen, on the north bank of the Dee, is a handsome city, built on rising ground with spacious streets and handsome houses. The harbor is one of the best in Scotland. The most prominent buildings are those of the university, known as King's College, which was chartered in 1494, and Marischal College, which was founded in 1593. The city also contains several schools, charities, and churches. The principal manufactures are cotton, linen, and sail-cloth. The exports are extensive, consisting principally of salmon, provisions, and granite. There are extensive iron foundries, breweries, and distilleries.

DUNDEE.—This sea-port is situated on the north bank of the Tay, and contains about 78,000 inhabitants. It stands mostly between the declivities of the river and Dundee-law, and is irregularly built. Among the interesting buildings, the first in importance is the tower of the cathedral church, which was founded by David, Earl of Huntingdon. The Luckenbooth, at the west-end of High-street, was the birth-place of Anne of Buccleugh, Duchess of Monmouth, and for a short time the residence of General Monk, and in 1715 of the Pretender.

The town was formerly surrounded by fortified walls, no traces of which now remain. Dundee is noted for its linen manufactures, consisting of sheetings, duck, and coarse linens generally. Linen yarn, cotton bagging, cordage, and canvass are also extensively made. The estimated value of exports of manufactured goods amounts to nearly £2,000,000. Kid-glove making, tanning, sugar-refining, iron-working, machinery, and ship-building, are also important branches of business. Dundee has a good harbor, and good docks. The aggregate burden of vessels connected with the port amounts to nearly 60,000 tons; and many of the vessels are employed in the whale-fisheries, and the Baltic and American trade. Among its celebrated natives are Admiral Lord Duncan, Sir Geo. M'Kenzie, Halliburton, and Hector Boethius.

DUNFERMLINE.—This town is situated in the county of Fife, 13 miles N. W. of Edinburgh, and contains a population of about 24,000. It is situated on an eminence, and is in general handsome. Among the most conspicuous and interesting objects is the abbey, founded in the 11th century, the nave, tower, and some other portions still remains. It was for a time the residence of Edward of England, who, on leaving it destroyed it by fire. It was again rebuilt by Bruce, whose body was afterwards interred here. There is also a fine collegiate church. Dunfermline has long been celebrated for its linen manufacture, the finer kinds of goods chiefly being woven; employing nearly 4,000 looms, and amounting to over £350,000 yearly. There are also some breweries, rope, tan, and soap-works, and tobacco and flour-mills. Iron, lime, and coal are raised in abundance. Charles I. was born here, in 1600.

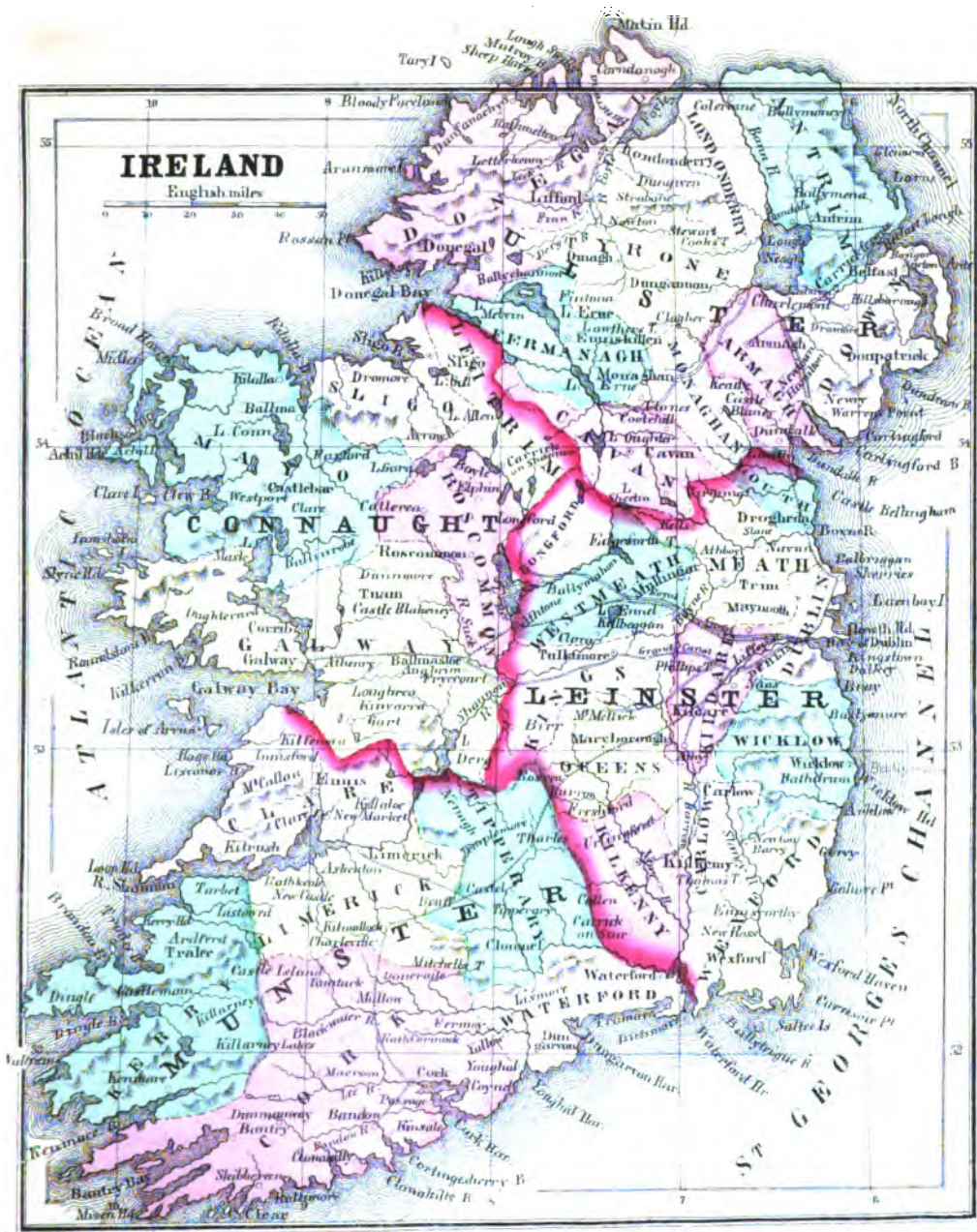
INVERNESS.—On the river Ness, 9 miles from its influx into the Moray Firth, contains about

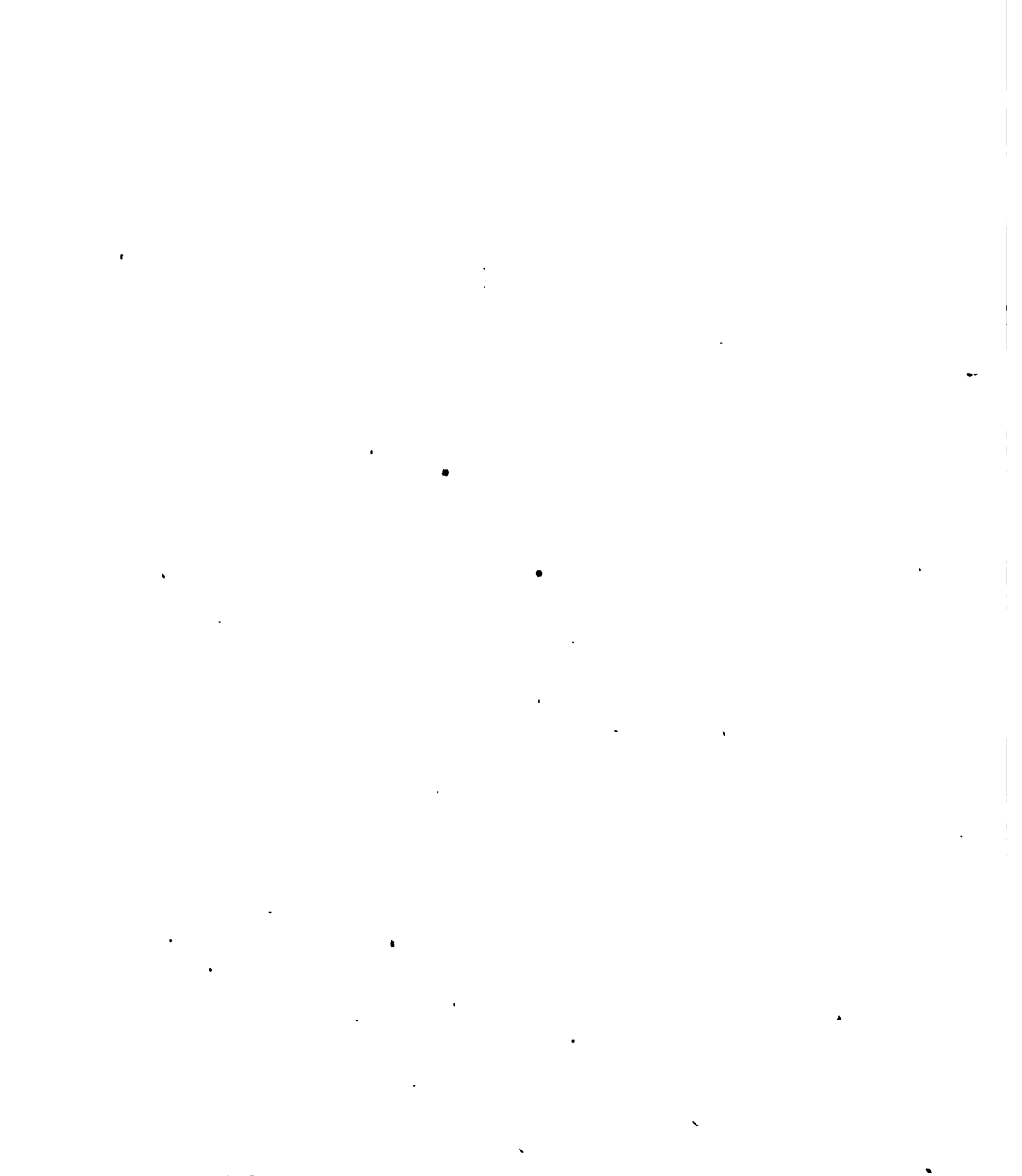
17,000 inhabitants. It is well situated and the town is in general well-built. Among the more notable objects is the ruins of a citadel built by Cromwell in 1652-7. It has 2 academies, other schools, and a number of charities. There is considerable trade with Aberdeen, Leith, and London, the principal exports consisting of oats, wool, and sheep, and imports of miscellaneous goods. There are a number of breweries, distilleries, and tanneries, and there is some manufacture in linens, plaidings, woolea, stuffs, and hemp. Ship-building also is carried on. Inverness was the capital of the Pictish kingdom, in the 6th century.

PERTH.—This city is situated in a plain on the right bank of the Tay, 33 miles N. W. of Edinburgh, and contains a population of about 23,000. Of the principal public edifices, the most conspicuous is the church of St. John, supposed to have been originally erected in the 5th century. There are numerous other churches, and an educational seminary, a grammar school, an academy, and other schools. The principal manufactures are those of colored cotton, stuffs, gingham, shawls, &c. There are a number of distilleries and breweries, iron-foundries, bleaching-fields, dye-works, rope-walks, tanneries, corn-mills, flax-mills, and ship-yards. The salmon-fishery is very valuable. A large quantity of this fish is exported, besides corn, potatoes, and manufactured goods. Perth was the scene of many important historical events.

HIBERNIA, OR IRELAND.

THE Romans never made any attempt to conquer this island, and we have no early account of it, except from Ptolemy, who must have received his information from British traders who visited its coasts. With the exception of an error in placing it 6° too far northward, his notions were





generally pretty correct, particularly as regarded promontories, rivers and towns. Although it is mentioned by Cæsar, Tacitus, and subsequently by other writers, but little is known of its early history until the fourth century, when the Irish, at that period called Scots, began to make inroads into Caledonia.

The various appellations of this island were, according to the ancients, *Hibernia*, by which title it continues to be designated; *Erne*, whence some deduce the name of *Erin*, by which the natives denoted it; *Iverna*, a modification, perhaps, of *Iena* and *Iris*, the latter name being derived from the authority of *Diodorus Siculus*. In the language of the Britons, Ireland was called *Yverdon*. Referring to the Carthaginian settlement, the curious *Bochart* deduces the name from the Punic *Iberna*, signifying, the most remote habitation.—Ireland for a long time being considered the most western region of the world.

There is abundant reason to presume that the early population of *Hibernia*, like that of *Britannia*, was of Celtic origin; and among the few remains of that once extensively circulated tongue, the language of the Irish is still the most remarkable relic. But if this people were of the common Celtic stock, it is not easy to fix the era of their arrival in *Hibernia*, nor that of their subsequent expulsion from those parts in which the Scots were found afterwards. When the Romans became sufficiently acquainted with this island to observe the divisions of the inhabitants, to mark their boundaries, and to assign them names, they entitled *Lagenia* that part which was afterwards denominated *Leinster*; to *Meath* they gave the name of *Midia*; that of *Ultonia* to *Ulster*; to *Connaught* that of *Connaccia*; and that of *Momnoia* to *Munster*.

Previous to the earlier portion of the fifth century, the people were mostly heathens; but in A.D. 432, *St. Patrick* landed in Ireland, and was greatly instrumental in effecting the diffusion of Christianity, which was followed by a considerable advance in civilization. From the end of the eighth century until its conquest by England in 1172, the jealousies of local petty princes, and the frequent depredations of Danish and other northern pirates, rendered Ireland the theatre of a series of melancholy feuds and disasters.

In connection with the ancient history of this country, we may notice the celebrated island of *Atlantis*, which is said to have existed at a very early period in the Atlantic Ocean, and to have been eventually sunk beneath its waves. *Plato* is the first writer who gives an account of it, and he obtained his information, as he informs us, from the Priests of Egypt. The statement which he furnishes us is as follows: In the Atlantic Ocean, over against the Columns of Hercules, lay an island larger than Asia and Africa taken together, and in its vicinity were other islands, from which there was a passage to a large continent lying beyond. The Mediterranean, compared with the ocean in which these islands were situated, resembled a mere harbor with a narrow entrance. Nine thousand years before the time of *Plato*, this island of *Atlantis* was both thickly settled and very powerful. Its sway extended over Africa as far as Egypt, and over Europe as far as the *Pyrrhenian Sea*. The farther progress of its conquests, however, was checked, by the Athenians, who, partly by the aid of other Greeks, and partly by themselves, succeeded in defeating these powerful invaders, the natives of *Atlantis*. After this, a violent earthquake, which lasted for the space of a day and a night, and was accompanied by in-

undations of the sea, caused the islands to sink ; and for a long subsequent period the sea in this quarter was impassable, by reason of the slime and shoals. Various theories have been founded on this narrative, one of which seeks to identify the Atlantis of Plato with *America*, and others suppose that the Canaries are fragments of that extensive island.

DUBLIN.—Dublin, the capital city of Ireland, is situated on the river Liffey, close to its entrance into Dublin Bay, and contains about 287,000 inhabitants. The S. W. quarter is mostly ill-built, irregular, and filthy ; the N. W. quarter is well laid out, and principally inhabited by the trading and middle classes ; the E. quarter is by far the handsomest part of the city. Among the numerous edifices, we can mention but a few of the more important : Dublin Castle, built on an elevated site, contains an arsenal, armory, the vicegeral chapel, and various government offices, with the state apartments of the Lord Lieutenant of Ireland. Adjoining the castle are elegant gardens and immediately north of it is the exchange, a fine building. In the S. W. quarter of the city are Christ church and St. Patrick's cathedral, both containing interesting monuments ; the archbishop's palace ; and the royal and foundling hospitals. Sackville-street, one of the finest thoroughfares in Europe, contains the post-office and rotunda, and in the centre is the Nelson pillar, a Doric column 134 ft. in height, surmounted by a statue. In this part of the city are also the Custom-house and Royal Lying-in-Hospital, with Mountjoy and Rutland squares, and Marlboro' green. The S. E. quarter comprises St. Stephen's green, in which is the equestrian statue of George II. ; Merion and Fitzwilliam squares ; College green, on which is situated the Bank of Ireland,

Trinity College, and a bronze statue of William III. In Dame-street is an equestrian statue of George I. Among other buildings and objects of interest may be mentioned, St. George's church, with a steeple 200 ft. in height ; the Dublin Royal Society House ; the Mansion House ; and the Dublin University, connected with which is a park, printing-house, a botanical garden, and an observatory. Dublin has a large number of churches, several convents and monasteries, numerous hospitals and other charities, several medical and other colleges, and a great variety of clubs and societies. There is ample communication, by canals, railroads, and steamboats, with many of the principal ports and other important places in the kingdom, and a line of packets connects with Havre. The harbor of Dublin comprises an area of over 3,000 acres, and near the mouth of the Liffey are the grand canal and the custom-house docks, and the wharves are accessible by vessels of 900 tons. The manufactures were once important, but have declined ; there is some trade, however, in timber, and in the exportation of linens, poplins, porter, provisions, &c.

BELFAST.—Belfast is situated at Belfast Lough, about 12 miles from the Irish sea, and contains nearly 100,000 inhabitants, who are remarkable for their industry, energy, and intelligence. The town is well-built, drained, and lighted, and in its general appearance compares favorably with any other manufacturing town in the kingdom. Churches, charitable institutions, schools, and scientific associations are numerous. Belfast is noted principally for its extensive Irish linen trade, of which it is the centre, and has many large mills ; there are also numerous breweries ; distilleries ; tobacco, rope, and sail-cloth factories ; flour-mills ; dye-works ; and bleaching-grounds. A number of

steamers connect the town with London, Liverpool, Dublin, and Glasgow. In the vicinity are some fine promenades, and many handsome seats, including that of the Marquis Donegal.

DROGHEDA.—This town is situated on the river Boyne, 31 miles N. of Dublin, and contains a population of about 17,000. It was formerly enclosed by walls, some remains of which still exist. The city is generally well-built, and the harbor is good. It has two churches, numerous monasteries, nunneries, schools, and charitable institutions. The principal branch of business is brewing, Drogheda ale being in great demand. There is some trade also with England.

CORK.—This city is situated on the river Lee, in the county of Cork, and contains a population of about 100,000. It is built on an island formed by the river, which is crossed by 9 bridges, some of them fine structures. Its main streets are spacious, and well-paved and lighted; but a large part of the city is composed of miserable lanes, inhabited by a population in the lowest destitution. Among the public buildings and other objects of interest are the Cathedral; the Mansion House; the Court House, erected at a cost of £22,000; and the Episcopal palace. Cork is also noted for its extensive cove, or harbor, which is large and deep enough to contain the whole British navy, and has an entrance a mile in width, and is about 8 miles in breadth, at its widest point. The city is well supplied with churches, and charitable, scientific, and educational institutions. Near it are cavalry and infantry barracks, and fine country residences. Principal manufactures are in iron and other metals, and paper, glass, and gloves. There are also some extensive distilleries and breweries. The trade is extensive, the exports consisting of flour, corn, butter, and other Irish

produce; and the imports of English manufactures, and wines, fruit, salt, and timber. Steam packets connect with English, Irish, and Scotch ports.

SLIGO.—Sligo is in the county of Sligo, at the head of Sligo bay, and contains about 11,000 inhabitants. It is the *entrepôt* of an extensive country, and has considerable trade. It has several flour-mills and breweries, and exports corn, meal, flour, provisions, linen, flax, and tow. The imports are chiefly colonial produce and English manufactures. The port and harbor are good, and vessels of 300 tons can come up to the town.

GALWAY.—Galway is in the county of Galway, at the mouth of the river flowing from Lough Carrig into Galway bay, and contains about 25,000 inhabitants. It is irregularly built, and the streets are mostly narrow and dirty; but from the number of convents and antique stone-houses, it has a picturesque appearance. Among other noticeable structures are two bridges; some remains of an ancient fortress; and a large collegiate church. There are large flour-mills, breweries, and distilleries, a paper-mill and foundry; and some fisheries are carried on. The exports, which are considerable, consist chiefly of corn, flour, bacon, fish, kelp, and marble. Galway was conquered in 1232 by the Anglo-Normans, under De Burgh, many of whose descendants still reside in the city. During the middle ages it had a flourishing trade with Spain; and it suffered greatly during the troubles of the 17th century.

NEWRY.—This town is situated on the Newry water, 6 miles above its fall, in Carlingford Bay, and 34 miles S. W. of Belfast. Population about 14,000. It is generally well built, and has 2 Roman Catholic churches, 2 chapels, a convent, and various schools; besides a few government estab-

lishments. The principal exports are linen, grain, provisions, cattle, eggs, and butter.

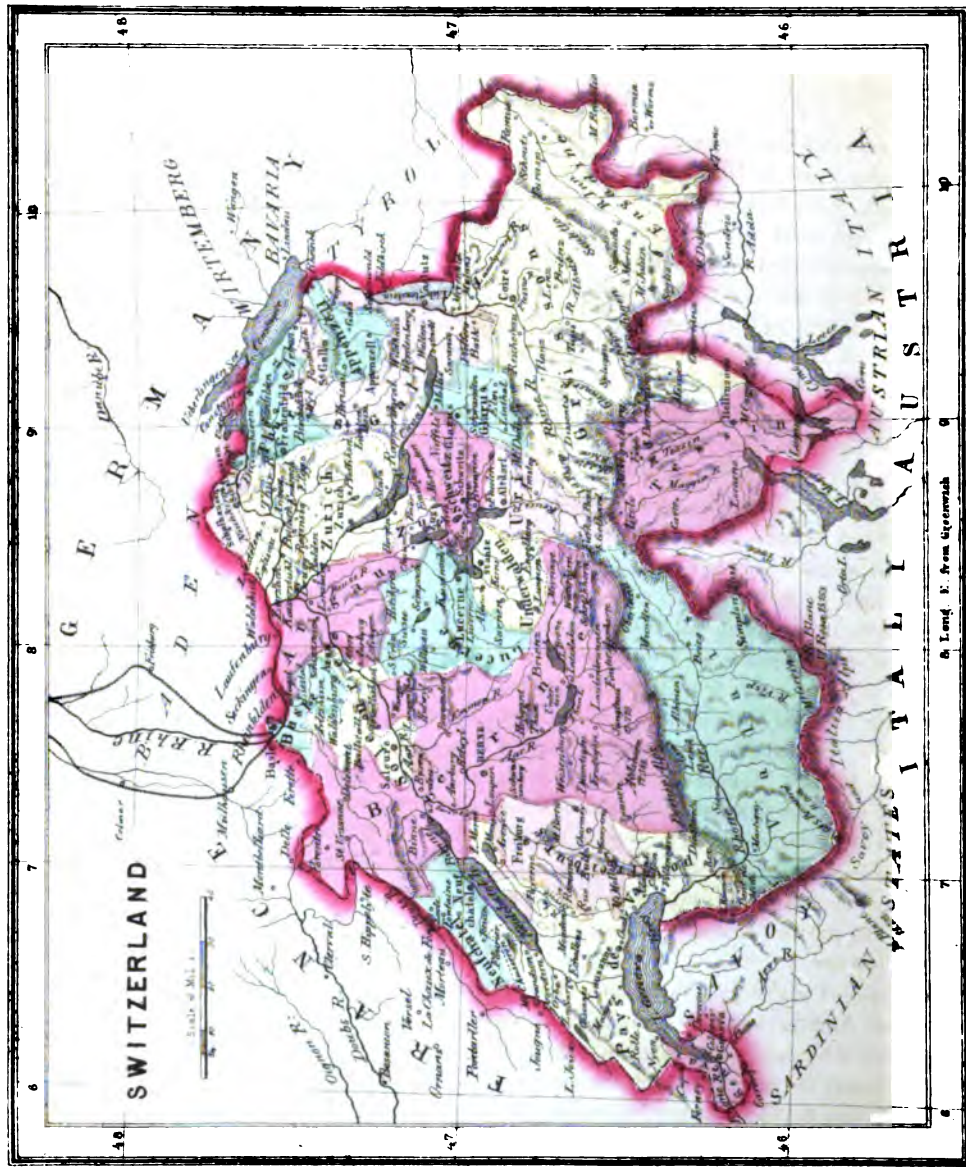
WEXFORD.—Wexford is situated on the right bank of the river Slaney, about 64 miles S. W. of Dublin. The town is narrow and crooked, but some of the streets are lined with good houses. Here are some remains of ancient walls of an abbey, and other ecclesiastical edifices. Outside of the town is a fine granite column, in memory of the exploits of Abercrombie and his army in Egypt. There are some malt-houses, and ship-building docks; and there is an active export-trade in cattle, dairy, and agricultural produce, timber, tallow, hides, cotton-yarn and wool, provisions, British manufactures, and colonial produce.

LONDONDERRY.—This city is situated in the county of Londonderry, on the river Foyle, and contains about 16,000 inhabitants. It stands on a ridge projecting into the river, and is enclosed by walls and bastions built in the 16th century. The streets are steep, but the city is generally well built. Among the more important buildings is the cathedral, built in 1633; the Bishop's palace; besides churches and buildings devoted to charitable purposes. There is also an elegant monument in honor of the Rev. G. Walker, who defended the city in the memorable siege, in the reign of James II. There is a large distillery, a copper-foundry, and a small manufacture in table-linen. The exports are extensive, and consist chiefly of oats, flour, butter, salted provisions, live stock, linens, and flax. The imports are principally of tea, wine, sugar, timber, and coal. There is an extensive trade with Liverpool and Glasgow.

WATERFORD.—Waterford is situated on the right bank of the river Suir, about 9 miles from the sea; and contains about 29,000 inhabitants. It has some handsome streets, but in general they are wretched. Among the principal edifices is the cathedral; bishop's palace; an ancient fortress; with artillery barracks, and other government establishments. There are also some remains of ancient fortifications. The quay and harbor of Waterford are the finest in Ireland; admitting vessels of 800 tons. The town is the entrepôt for a large extent of country, and the exports are valued at £2,000,000 sterling annually, consisting principally of agriculture and dairy produce, bacon, live-stock, and cotton goods. There are some manufactures of glass and starch, a ship-yard, and distilleries and breweries.

LIMERICK.—Limerick is situated in the county of Limerick, on the river Shannon, in one of the richest agricultural districts in Ireland, and contains about 55,000 inhabitants. Some quarters of the city are well-built and handsome, but others miserable. Among the chief structures is the cathedral, founded in 1180; a Roman Catholic cathedral; remains of a castle built by King John. in the area of which are extensive barracks; and remains of the ancient city wall. There are numerous schools, churches, convents, friaries, and charities. The trade consists chiefly of imports of coal, turf, continental and colonial produce, and British manufactures. The exports are principally in corn, meal, butter, beef, and pork. Limerick was a royal seat of the kings of Thomond, before the conquest.





SWITZERLAND.

SWITZERLAND is bounded on the North and East by Germany, South by Italy and West by France. Its length from East to West is 216 miles, its breadth from North to South, 140 miles, having a total area of 15,200 square miles; less than one half the size of Maine. A large portion of its surface is covered by lofty mountain ranges; the remainder is an elevated table land 1300 feet above the level of the ocean. It has numerous lakes celebrated for their beauty. The principal rivers are the Rhine and Rhone, which both rise in the glaciers of Mt. St. Gothard.

Glaciers, form one of the most remarkable features of this division. They are masses of ice which are enclosed in Alpine valleys, or are suspended upon the flanks of the mountains which rise into the regions of eternal frost. Being of a white color, they appear at a distance like vast streams of snow issuing from lofty summits, and extending into the lower valleys. In the Alps, where the large glaciers have received distinct names, as Bossons, Montanvert, Aletsch, Viesch, &c., they terminate sometimes as high as 7,000 or 8,000 feet; but some descend to 3,000 feet. They are sometimes three miles wide and fifteen miles long; and their thickness at the lower end varies from 80 to 100 feet, and at the upper end, from 120 to 180 feet.

Geology.—The geology of this country of mountains has been explored by many of the ablest geologists of Europe, commencing with Saussure. And although its structure is complicated it has afforded many fine illustrations of geological principles. The central parts of the Alps are primary; or gneiss, mica slate, talcose slate, hornblende

slate, and limestone. In the gneiss, talc often replaces the mica; and the rock is then called protogine: of which Mount Blanc is formed. On the flanks of the mountains are deposits of new red sandstone, lias, oolite, green sand, chalk, and tertiary strata; over which are accumulations of diluvium. The tertiary rocks are from 2,000 to 4,000 feet above the ocean, and mark the height to which these mountains have been raised since those strata were deposited. All the older unstratified rocks, as granite, sienite, porphyry, and greenstone, are found in the Alps.

Scenery.—The face of the country is as romantic as imagination can conceive. The Alpine mountains here tower to an immense height, and present summits covered with eternal snow; between these are glaciers that resemble the sea in a storm, suddenly congealed by ice, enormous rocks, frightful precipices, foaming torrents, and smiling fertile vales. There are four passages over the Alps into Italy from Switzerland; the first is beyond the Lake of Geneva, over Mount Cenis, which leads to Savoy; the second begins in Grisons, crosses to Mount St. Bernard, and leads to Aosta, in Piedmont; the third begins also in Grisons, crosses Mount Simpleberg, and leads to Milan; the fourth crosses St. Gothard, and terminates in the Milanese. The traveling over the Alps is usually performed on horses or mules.

The most celebrated lakes are those of Constance, Geneva, Lucerne, Neufchatel, and Zurich. The principal rivers are the Rhine and Rhone, which rise in Switzerland, besides the Aar, the Tessin, and the Reuss. The natural curiosities are numerous, consisting of the mountain, lake, and river

scenery, cataracts, and the glaciers already mentioned. This country is much visited by travelers, and the romantic scenery in which it abounds is considered among the most interesting in the world. Among other curiosities may be mentioned two wells, one of which ebbs and flows once a day, the other flows for *three* months, and is then dry *three* months. There are many Roman antiquities in different parts, and several hermitages of a peculiar construction, one of which, in a beautiful solitude near Friburg, consists of a chapel, oratory, steeple, &c., all hewn out of a rock, though the steeple is fifty feet in height.

History.—The history of Switzerland abounds in interesting events. The Swiss and Grisons, descendants of the ancient Helvetians, were subjected to the Roman yoke by Julius Cesar, and their country added to the province of Gaul. They continued under the Roman government till the time of Honorius and Valentinian II., about A. D. 400, when this country was conquered by the Burgundians and Germans, whose power, however, for a time, was little more than nominal. About the year 634, part of Switzerland was given to Sigebert, Count of Hapsburg, the founder of the House of Austria, and in the year 1032, the rest of this country was given by Rodolph, the last king of Burgundy, to Conrad II., Emperor of Germany, and from that period Switzerland was considered as part of that empire. This country was subject to the house of Austria for about three hundred years, and the people suffered great oppression from the Austrian governors. The Swiss applied to Albert I., for redress, but so far from their grievances being removed, the Austrians increased their hardships. *Gesler*, the Austrian governor of Uri, exerted the most wanton tyranny over the Swiss, and ordered the people, among other things,

to bow down to a cap placed on a pole in the market place of Altorf, as the representative of authority. William Tell, a native of Berne, and a celebrated marksman, refused to obey, and treated the mandate with contempt. The tyrant condemned him to suffer death, unless he cleft with an arrow from a bow, an apple placed on the head of his (Tell's) son, standing at a distance. Tell performed the task with dexterity, but having declared that he would have shot *Gesler* if he had unfortunately killed his son, he was sent to prison. He soon escaped, and shot the governor. This transaction hastened a plan, which had been some time before formed by certain Swiss leaders, to attempt to gain their liberty. The three mountainous cantons of Uri, Schweitz, and Underwalden were the first that formed a confederacy in 1308. From this period the Swiss maintained the contest against their oppressors for more than three hundred years, often defeating large armies of Austria and France, till at last they established their independence, and by the treaty of Westphalia, in 1648, they were declared a Free and Independent State. Previous to 1798, the confederacy consisted of thirteen cantons. In 1797 the partizans of France having excited disturbances in Switzerland, a French army entered the country, and after defeating the troops and peasants who opposed them, in several battles, they abolished the constitutions of the principal cantons, erected what was termed the *Helvetic Republic*, and vested the government in two councils and a directory. This constitution was abolished in 1802, by Bonaparte, First Consul of France, and in 1803 the Swiss accepted a new one prepared by him. In December, 1813, the Allied armies traversed the country for the purpose of invading France, when some changes took place in the government of Switzer-

land, which caused disturbances in some of the cantons. These were appeased in 1814 on the meeting of the Diet, and on the 8th of September, in the same year, a federal compact was signed at Zurich.

Ethnography.—The inhabitants are of the German and Greco-Latin stock. Those of German extraction form seven-tenths of the whole population, and occupy the central, eastern and northern portion of the country. They are a brave, hardy, and industrious people ; of great simplicity of manners, and strongly attached to liberty. Among them luxury and effeminate pleasures are unknown ; they are expert in athletic exercises. Like the old Romans, they are equally inured to arms and agriculture. The men are strong and robust ; the women are frequently pleasing in their manners, and are equally industrious with the men. Great numbers of the peasantry have emigrated to the United States of America, where they generally penetrate into the interior of the country, purchase lands, and retain their industrious habits.—They generally speak the German language. The Greco-Latins, are found in the south and west, and embrace the inhabitants of those cantons bordering on Lakes Geneva, and Neufchatel, and in the canton of Tessin, south of the Alps.

The Government is a Federal Republic, nearly

analogous to our own. The cantons have each an independent government of their own, and for mutual support and defence are formed into a confederacy, which is considered a republic. The government of Switzerland is administered by a general diet, the president of which is styled the *Landamann*. This diet or general assembly is composed of deputies from each of the cantons and meets in rotation at Berne, Zurich, and Lucerne. The diet declares war, concludes peace, makes alliances with foreign states, and forms treaties of commerce. The standing army is fixed at 30,000 men.

The canton of Neufchatel in 1848 revolted from Prussia, declared her independence, and joined the Swiss confederation. It is now* demanded by Prussia that those political prisoners who were in her interest at the time of the rebellion be surrendered, this, with other minor causes, has given rise to the present difficulties. The population of the canton is about 60,000.

GENEVA is situated at the foot of Lake Geneva, and on both sides of the Rhone. It has an imposing appearance, but its streets are narrow and irregular. It contains a cathedral, other public edifices, and several seminaries. It is noted for its manufacture of watches, of which 100,000 are made yearly.

*Feb, 1857.

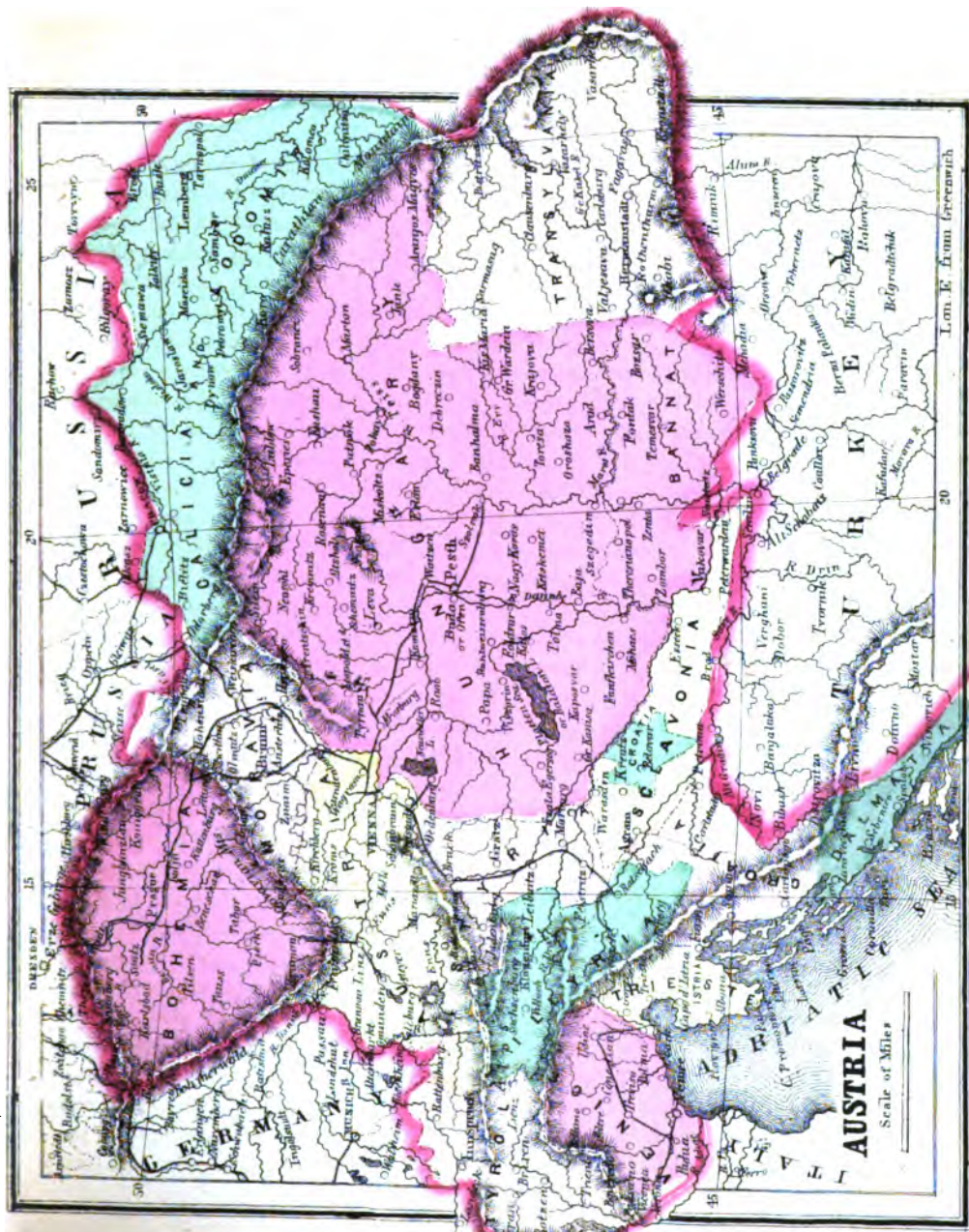
A U S T R I A .

AUSTRIA, situated nearly in the centre of Europe, is one of its most populous and powerful states. It is bounded north by Prussia and Russia, east by Russia and Turkey, south by Turkey, the Adriatic sea, and Italy, and west by Switzerland and the German States. Four-fifths of the surface is mountainous, with much wild and romantic scenery. The level or flat portions are found in Sclavonia, and central and south-eastern Hungary, where they occupy vast tracts, parts of which are fertile, with occasional marshes and barren steppes. The most fertile and best cultivated districts are the valley of the Danube, and the plains along the Po. The Danube is navigable for large vessels throughout its course in this territory.

Geology.—Primary rocks occur in several places; but they are not relatively very abundant. Nearly all the secondary and tertiary stratified deposits hitherto described occur here; and above them diluvium and alluvium. The common unstratified rocks are also found here; and in addition we have trachyte in abundance, with trachytic porphyries, tufas, and conglomerates, which are of more recent date than the tertiary strata; and one solfatara at least exists in the trachytic regions of Transylvania.

Hungary produces more gold and silver than any country in Europe. Hassel states the annual amount of the former to be 1050 pounds; and of the latter 41,600 pounds. But this is greater than the quantity now obtained. The iron annually smelted is about 10,000 tons; of copper, 19,000 tons; of lead, 1225 tons; and large quantities of coal and salt are obtained.

History.—The nucleus of the present empire was formed in 788–801 by Charlemagne, who established the Margraviate of Austria, which, in 1156, was made a duchy by Frederick I. In 1276, Rodolph of Hapsburg, Emperor of Germany, vested the succession to this duchy in his descendants, and their house has since ruled the Austrian dominions. The duchy steadily increased in extent and power, until it became the most important part of Germany, and in 1438, its Duke, Albert V., became emperor of Germany; but on his death, the countries were separated. In 1526, Ferdinand I. obtained possession of Bohemia and Hungary, including Moravia and Silesia, and Austria then obtained rank as a monarchy. The Thirty Years' War, 1618–48, between Austria and Saxony and the Protestant States and their allies, ended in the treaty of Westphalia, and the independence of the different States of the Germanic empire. In the first division of Poland, in 1772, Austria acquired Galicia, and captured Bukovina in 1777. Francis I., who, in 1792, succeeded his father Leopold II. as emperor of Germany, in 1804 declared himself hereditary emperor of Austria, and in 1806 renounced his title to the empire of Germany, which was then dissolved. He reigned until 1835, and was succeeded by his son, Ferdinand I., who, on Dec. 2d, 1848, abdicated in favor of his nephew, Francis Joseph I., the present emperor. The political commotion which in 1848 prevailed throughout Europe, extended to Austria; Lombardy revolted, and Hungary struggled for its independence; but in 1849 peace was restored by the successes of the Austrian forces, and the promulgation of a Con-





stitution, March 4, 1849, which was afterwards revoked by imperial patent of Dec. 31, 1851.

The Grand Duchy of Tuscany extends from lat. $42^{\circ} 13'$ to $44^{\circ} 30'$ N., lon. $9^{\circ} 12'$ to $12^{\circ} 20'$ E., and is bounded N. W. by Lucca and Modena; N. and S. E. by the Papal States; S. W. and E., E. W. by the Mediterranean, here called the Tuscan Sea. After the fall of the Roman empire, the country was possessed successfully by several nations, until 1538, when it was erected by Charles V. into a duchy, styled the "Tuscan fields and hills," and granted to Alexander de Medicis, whose descendants became extinct in 1737, and, not long after, the duchy was annexed to Austria.

In 1847, Lucca was declared an integral part of the grand duchy, and the following are now its divisions, area, and population :

PROVS. OR DEPTS.	AREA IN		CHIEF TOWNS.
	S. M.	POP IN 1852.	
Florence.....	2,270	700,015	Florence.
Lucca.....	516	280,745	Lucca.
Pisa.....	1,186	227,719	Pisa.
Sienna.....	1,470	186,263	Sienna.
Arezzo.....	1,278	218,283	Arezzo.
Grosseto.....	1,728	77,891	Grossetto
Leghorn & isl'd of Gorgona..	40	85,834	Leghorn.
Elba and adjacent islands..	98	21,271	Porto Ferrjoa.
Total.....	8,686	1,778,021	

Population.—The population has increased rapidly in all the provinces. It consists of five distinct races, returned by the census of 1850 in regard to nationalities, as follows: Slavonian and Magyar, 15,282,196; German, 7,917,195; Romanic, 8,104,576; Asiatic, 6,279,608.

Government.—The whole legislative authority is vested in the emperor, who exercises supreme control in all the provinces except Hungary and Transylvania. His exercise of this control is tempered in regard to the several governments according to their origin, or nationality, and the influences which move them to maintain their national distinctions, or to regain their independence.

The Council of the empire consists of Baron Charles de Kubeck, president, and 10 members, besides the Director of the Chancery, and a secretary. There are six departments, viz: Foreign Affairs, Interior, Religion, and Public Instruction, Justice, Finances, and Commercial Affairs, each headed by its minister.

Finance.—For several years prior to 1848, the yearly revenue was about \$76,000,000, and the public expenditure about \$62,500,000, thus yielding a surplus of \$13,500,000, which was applied to the sinking fund and in paying the interest of the public debt; but since 1848, there has usually been a deficit yearly.

Force.—The army, as remodelled in 1849, contains four grand divisions, and counts altogether some 476,000 men, and 1,460 guns, of active troops, and with its reserve corps can, at once, enter the field with 600,000 men. The navy is small, and in 1854 consisted of 6 frigates, 5 corvettes, 7 brigs, 6 galleons, 11 steamers, etc., and a Danube flotilla of gunboats, all mounting 742 cannon. Marine force, 3,215, with 6 companies of marine infantry.

Education.—The educational establishments are of eight classes. Attendance on the elementary schools, for all children between 6 and 12 years, is compulsory. There are 9 Universities, containing 15,794 pupils; 37 Academies, containing 15,000 pupils; 31 Lyceums, containing 4,880 pupils; 77 Theological Institutions, containing 3,747 pupils; 78 Philosophical Institutions, containing 5,511 pupils; 283 Gymnasiums, containing 56,903 pupils; 1,428 Particular Institutions, containing 53,233 pupils; and 17,511 National Schools, containing 2,237,453 pupils.

VIENNA, situated on a fertile plain on the S. side of the Danube, is now the first trading and manu-

facturing city of the Empire. It is renowned for the vast number of its literary and scientific institutions, for its public edifices and stately palaces, its magnificent public gardens, and for its wealth. In some respects it is the most attractive city in Europe, as it blends the commercial activity of London, and the brilliant gayety of Paris, with the picturesque aspect of an eastern city. The city proper, 4 m. in extent, is entirely surrounded by the Glacis, a continuous park, handsomely ornamented with trees, flowers, etc.; and without this are the so-called suburbs, which in fact constitute a large part of the city, and these are more regularly built than the city proper. The Prater is a delightfully wooded green, four m. long by one broad, thronged every fair afternoon, and especially on Sundays. Some of the churches are remarkable, as St. Stephen's cathedral, founded by Henry I., 342 ft. long by 144 broad, with a spire 435 ft. high. Vienna is noted for its galleries of fine arts, cabinets of natural history, scientific col-

lections, etc. The imperial library alone contains 350,000 volumes, and 16,000 MSS. The neighboring imperial palaces of Schönbrunn and Luxembourg are noted for their beautiful parks and other attractions. Population, 429,500.

TRIESTE, at the head of the Gulf of Trieste, 240 m. S. W. of Vienna, and is noted for its very extensive commerce; also for its manufactures and several architectural monuments. Population 53,310.

PRAGUE, the capital of Bohemia, on the Moldau river, 160 m. N. W. of Vienna, is one of the most important trading and manufacturing towns in the empire, and celebrated for its many grand edifices, its wealth, its university, and other literary and scientific institutions. Pop. 115,436.

PRESSBURGH, on the Danube, 34 m. E. of Vienna, the ancient capital of Hungary, with 45,000 inhabitants, is noted for the sessions of the Hungarian Diet, and also for its churches and manufactures.

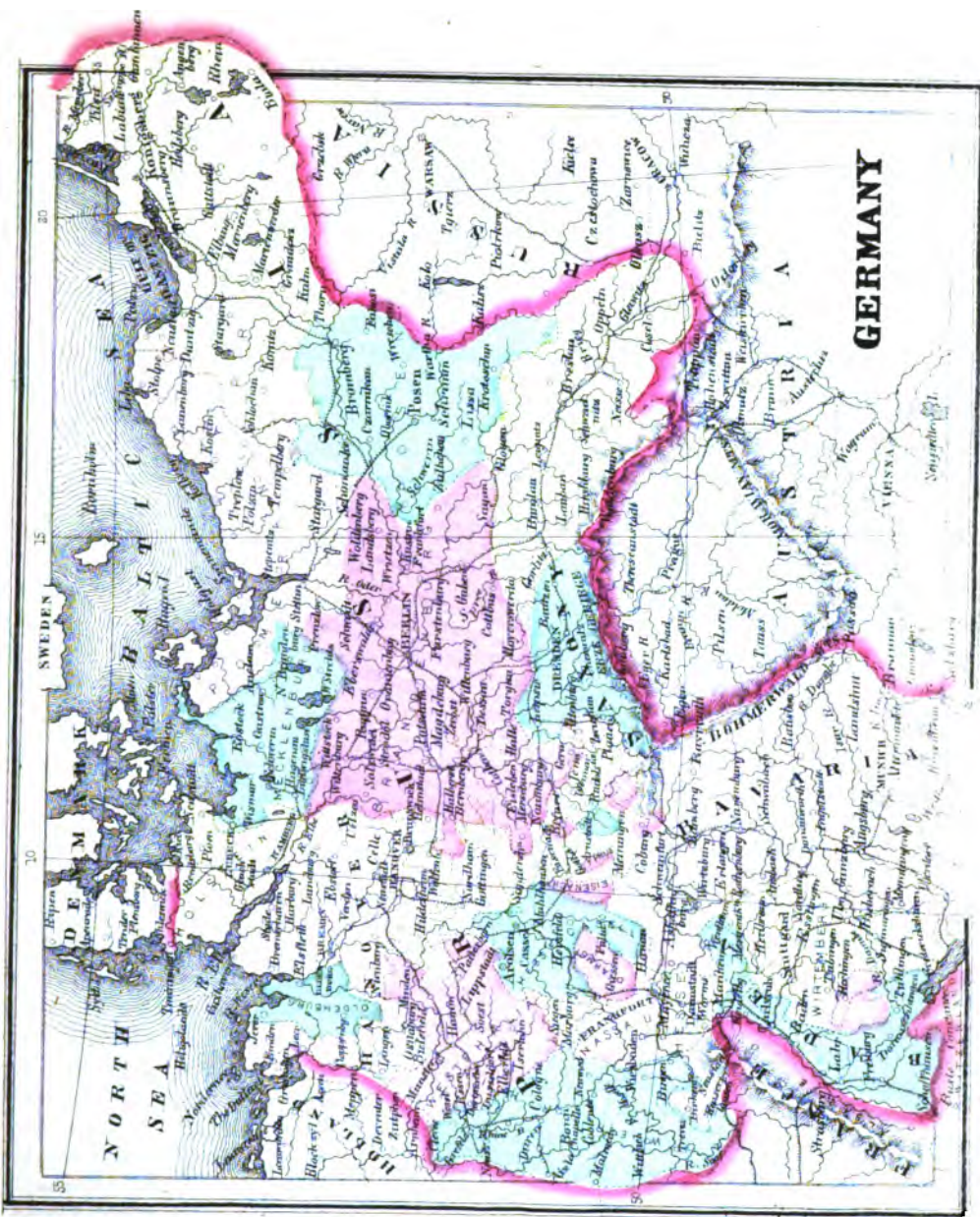
GERMANY.

GERMANY comprises Prussia and the following Germanic States: Bavaria, Württemberg, Baden, Saxony, Hanover, Two Mecklenburgs, Hesse, Darmstadt, Nassau, Colburg and Gotha, Saxe Weimar, Saxe Meiningen, Altenburg, Brunswick, Lippe Detmold.

This confederation is bounded on the N. by the Germanic Ocean, the Duchy of Holstein, and the Baltic; on the E. by Prussia and Bohemia; on the S. by Switzerland and the Tyrol; and on the W. by France, the Prussian dominions of the Lower Rhine, and Holland.

The *Eastern Division* has generally a level sur-

face, and its north, central, and eastern sections properly belong to the region of the Great Plain. Along the shores of the Baltic there are a great number of lakes, some of which are 10 or 12 m. long; many of these have been contracted in size by artificial embankments, and the soil appropriated to the purposes of agriculture. Forests cover a large portion of the country, and in the northern provinces alternate with marshy districts and tracts covered with heath. The forest trees are those belonging to Central Europe in general; pines and firs become more common in the sandy plains watered by the Oder and Elbe. The cen-



GERMANY

tral portion of Prussia consists chiefly of sandy plains. In the south the surface rises towards the mountains, of which the S. boundary is in great part formed. The climate in this south section is somewhat cold, though salubrious. On some of the sandy plains the heat of summer is oppressive; near the Baltic the weather is changeable, raw, and foggy, and in winter is very cold.

The *Western Division* consists of Westphalia and the Rhenish Province, in both of which the surface is much diversified, and in part mountainous.

History.—After the dissolution of the Roman empire, Germany was overrun by the Franks, A. D. 800, Charlemagne was crowned by Pope Leo III. emperor of the Holy Roman Empire of Germany; his vast dominion extending from the Tiber to the Eider, from the Ebro in Spain to the German Ocean, and from the Atlantic to the Elbe and the river Raab in Germany. At the beginning of the tenth century the German princes asserted their independence, rejected the Carolingian line, and placed Conrad, count of Franconia, on the throne; since which time Germany has remained an elective monarchy. In the thirteenth century arose the factions of the Guelphs and Ghibelines, of which the former were attached to the Pope, and the latter to the Emperor, and by their continual dissensions disquieted the empire for several ages, which was also frequently embroiled by the quarrels of the German princes concerning the succession. In 1414 the infamous council of Constance was convoked; by whose orders Jean Huss in 1415, and Jerome of Prague in 1416, were burned to death for promulgating the doctrines of Wickliff. The reign of Maximilian I. is famous for the beginning of the Reformation in 1517, which proceeded from the university of Wittemberg in Saxony, where

Martin Luther was a professor. The power of the German empire gradually decreased; in the eighteenth century it was little more than nominal, and in 1806 many of the Germany states united in what was called the Rhenish Confederation under the protection of Napoleon, who declared the German empire at an end. From this Confederation, Bavaria, and the other members, successively withdrew, and joined the alliance against Napoleon. At the termination of the European war in 1814–15, at the Congress of Vienna the present Confederation was formed, June 8th, 1815, with the professed object of securing the independence and inviolability, and of preserving the internal peace of the states. Population in 1852, 16,935,480—to a sq. m. 156.

Government.—The monarchy is hereditary in the male line, and was absolute until 1847. The revolution in Berlin, March 18, 1848, was followed by the adoption of a constitution, which lasted for only a short period. The new electoral law of 1849 makes the second chamber to consist of 350 Deputies, chosen by suffrage.

The *forms of Government* in the Germanic States are very various. Bavaria, Wurtemberg, Saxony, and Hanover have each the rank of a Kingdom; Baden, Mecklenburg-Schwerin, Mecklenburg-Strelitz, Hesse-Darmstadt, Oldenburg, Luxemburg, and Saxe-Weimar are called Grand Duchies; the ruler of Hesse-Cassel is styled the Elector; and the remainder are chiefly either Duchies or Principalities. Hesse-Homburg is styled a Landgraviate; and the four towns of Hamburg, Lubeck, Bremen, and Frankfort are free cities, and are each governed by a separate municipal administration of their own choice.

Military Strength.—Standing army, 166,000, of whom 112,000 infantry, 20,000 cavalry, and

18,000 guards, and 16,000 artillery, which, according to an experienced officer, lieutenant-colonel Chesney, is one of the most efficient gunnery corps in Europe. The landwehr, or militia, consisting of 160,000 men, assemble yearly for exercise, and every man from 20 to 25 years of age is bound to serve.

Education.—The system of public education in Prussia and the German States is more thorough and extensive than in any country in Europe, every child from 6 to 14 years is required by law to attend school.

Of *Railways*, there were in the summer of 1855 thirty lines finished and in operation, having 2,290 m. of road, which had been built at a cost of \$145,000,000.

BERLIN, an important city of Germany, and of the province of Brandenburg, on the Spree, 156 m. E. S. E. of Hamburg, and 100 m. N. of Dresden. Lat. (of new Observatory) $52^{\circ} 30' 16''$ N.,

lon. $13^{\circ} 23' 58''$ E.; mean temperature of the year $48^{\circ} .2$; summer $64^{\circ} .5$; winter $31^{\circ} .4$ Fhar. Pop. 1846, 408,502, and in May 1852, 441,931. It is built in a sandy plain 127 feet above the level of the sea, and on both banks of the Spree. The city is surrounded by a wall 16 feet high, and is entered by 16 gates, one of which, the Brandenburg gate on its W., is a colossal structure, surmounted by Victory, in a car drawn by 4 horses, and one of the most elegant of the kind in Europe. It was carried to Paris in 1807, and restored in 1814. Of the 40 bridges which cross the Spree and its branches, the principal are the long bridge, with an equestrian statue of the great elector Frederick William; the Schlossbrücke, or palace bridge, with groups of heroes in marble; Frederick's bridge, consisting of eight arches, and constructed of iron. The city generally is regular and handsome, but the houses are of little elevation.

THE NETHERLANDS.

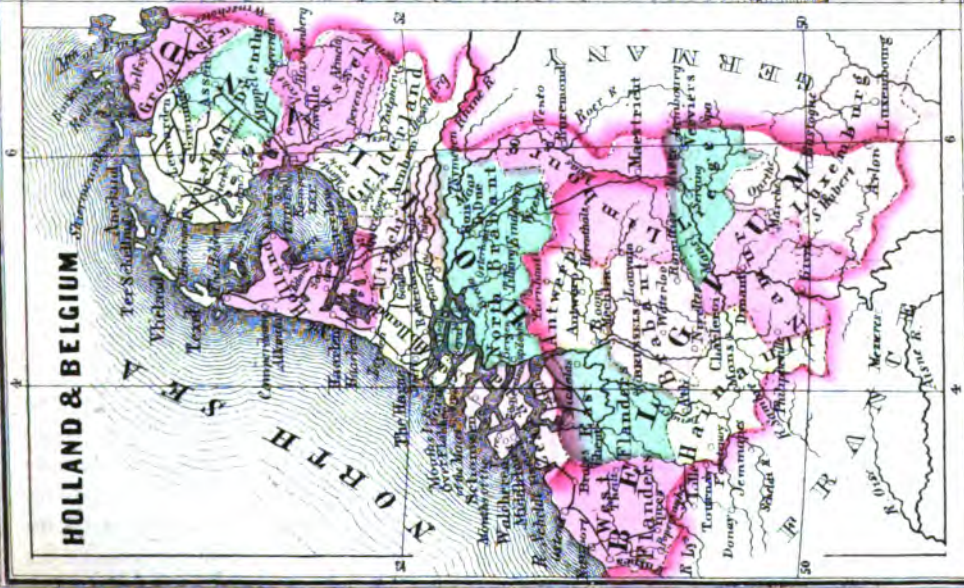
THIS is the geographical name of about 25,000 sq. m. in the west of Europe, politically known as HOLLAND and BELGIUM. This division was made in 1830: anterior to 1795 the whole constituted a Republic, known as the United Provinces of the Netherlands. They are bounded on the N. and W. by the North Sea, E. by the German States, S. by France. The country is level, except a small portion in the south-east, where low hills rise gradually to the Ardennes. There is little variety to the scenery, yet in the kingdom of Holland cleanly towns and villages, canals, and wind-mills relieve the monotony with a picturesque effect.

The Dutch belong to the great Germanic tribe, and have been distinguished for a thousand years,

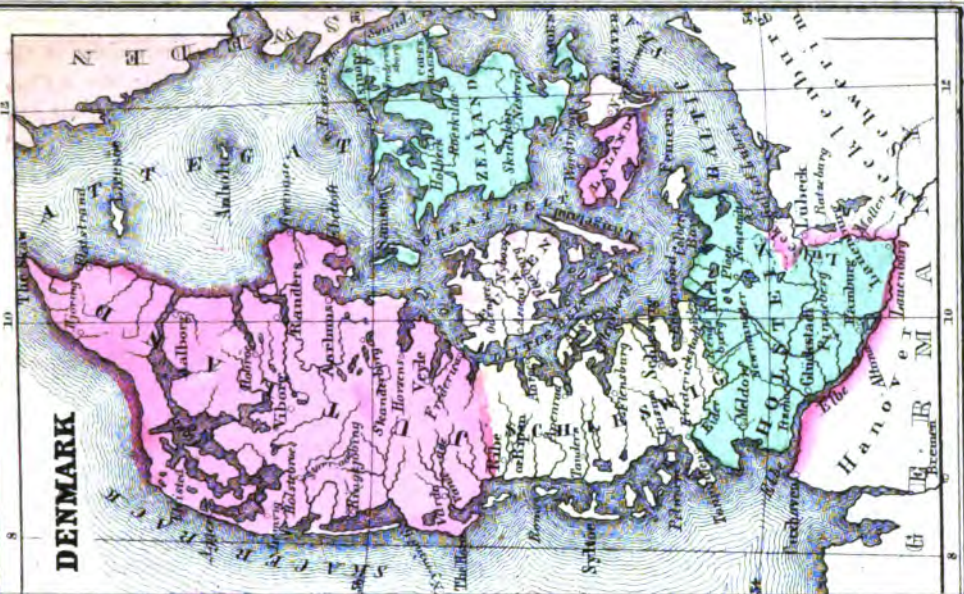
for their love of freedom, their bravery, and nautical skill, enterprise, industry and thrift; and are a remarkable illustration of what may be accomplished by those qualities.

History.—In the days of the Romans, the southern half of the Netherlands was inhabited by the Belgians, and the northern half by the Batavians; at the northern boundaries of the latter lived the Frieses, or Frieslanders. About the year 54 before the Christian era, Julius Caesar subdued the Belgians and Frieses, and entered upon friendly terms with the Batavians. Since the decay of the Roman empire the Netherlands came under the sway of the Franks; and by the terms of the treaty of Verdun in 843, the northern, and after

HOLLAND & BELGIUM



DENMARK





887 also the remaining part of the Netherlands was annexed to the German empire. The Emperors appointed dukes and earls governors of the Netherlandish provinces; yet gradually they made their office inheritable and themselves independent so early as in the 10th century. In 1369 Margaret, the only heiress of Flanders entered into marriage with Philip the Bold, duke of Burgundy, who thus became possessed of that earldom. At the same time the line of the ancient dukes of Brabant had become extinct, and the only heiress, Johanna of Brabant, bequeathed the duchy to her grand-nephew, Anton of Burgundy, the son of Philip the Bold. In the course of time other parts of the Netherlands were annexed to these possessions, and in the latter half of the 15th century, nearly the whole was under the sway of the duke of Burgundy. The last duke in the male line of this house, Charles the Bold, died in 1477, and his only daughter, Mary, inherited the Netherlands together with Burgundy proper. She was married to the Austrian archduke Maximilian; and their son Philip was married with Johanna of Castile. Philip's and Johanna's eldest son, the renowned emperor Charles V., inherited all these immense possessions, and bequeathed the Netherlands, together with Spain, etc., to his son Philip II. of Spain. The southern provinces continued to be annexed to Spain, until by the terms of the treaty, concluded at Rastadt on the 7th of March, 1714, they were ceded to Austria, which in 1797 ceded them to France. In 1814 they were restored to Austria, that however renounced them in favor of an arrangement, by which the northern and southern provinces were reunited under the name of the "Kingdom of the Netherlands." But the revolution in 1830 separated them again; and since that time the northern provinces have re-

tained the name of a kingdom of the Netherlands or Holland, while the southern provinces are united as a "Kingdom of Belgium."

HOLLAND.—This kingdom lying on the N. of Belgium, contains an area of 13,230 sq. m., is for a large part below the level of the sea, to prevent the encroachments of which dykes are made usually 30 feet high and 70 feet wide, at the bottom, of rough clay, fenced on the inside with wood and stone, and on the outside with mats of flags and rushes, to high-water mark.

The government is a Constitutional Monarchy

Education.—There are 3 universities, three other similar institutions on a smaller scale, styled Athenaea, 68 Latin schools, 9 seminaries, 70 secondary, 2,125 public schools.

Force.—The army contains about 60,000 men; and the navy 20 large ships, and 30 frigates, and war steamers.

AMSTERDAM is one of the finest cities in Europe; it is built on piles, fortified by a ditch and bastion intersected by canals, which form 90 islands, connected by 280 stone and wooden bridges. The new bridge has 36 arches, and is 606 feet in length.

BELGIUM, is the most densely populated country in Europe, having over 400 inhabitants to a sq. m. The scenery is more romantic than that of Holland, and the soil very fertile.

The government is a limited monarchy, the legislative power being vested in a King, Senate, and House of Representatives.

Education, in the primary branches is common among all classes. The manufactures are principally linen, cloth, leather, fire-arms, cutlery, steam-engines, and lace; long renowned as the finest in the world. A pound of the finest thread, for bone-lace, costs about \$1000.

DENMARK.

THIS ancient kingdom, which formed part of Scandinavia, now consists of the Danish islands in the Baltic, the peninsula of Jutland, the duchies of Sleswig, Holstein, and Lauenberg; and also of the island of Iceland, and the Feroe islands. Denmark is divided on the N. from Norway by the Skagerrack sea; on the E. from Sweden by the Cattegat and the Sound; on the S. by Germany and the Baltic; and on the W. by the North sea or German ocean, which separates it from Britain.

Aspect.—The country is a great plain; there are few eminences, the highest only 1200 ft. above the sea. A low sandy ridge stretches from the Skawe directly south to the river Elbe. The coast on the German ocean is low, sandy, and much indented by firths; on the shores of the Baltic the land is more elevated and fertile.

History.—Denmark and the adjacent countries, originally known as Scandinavia, was probably peopled by migrating hordes who passed from the north to more fertile regions and warmer climates. The Jutlanders were known to the Romans as the Chersonesus Cambrica, and the Cimbri, or people of Sleswig, together with the Teutones, made incursions into the Roman provinces of Gallia. The Goths, under Odin, spread themselves over Scandinavia, and the first king of Denmark is said to have been Skiold, a son of Odin. Under the title of Danes, they ravaged England and Ireland; and under the designation of Northmen, or Normans, they swept along the coasts of France, Spain, Italy, Sicily, and even as far as Constantinople, everywhere influencing events by their bravery and talents, and leaving

to the present day in the above-named countries the distinguishing traits of their character.

Population.—The population of Denmark, exclusive of Iceland and the Feroe islands, is nearly 2,000,000, which, on an area of 22,000 sq. m., is only 90 to each square mile.

Government.—Hereditary monarchy in the male and female line; a representative assembly, and a privy council for the management of the higher affairs of government.

Education.—Every town or village has a primary school; various high seminaries, civil and military, and many educationary establishments in every branch of art and science.

The *Army* consists of 50,000 men. The *Navy* is small.

COPENHAGEN, the capital of the Danish dominions, is situated on a low promontory on the east side of the island of Zealand, is a noble-looking city, five miles in circumference, and well-fortified. The buildings are of brick, stone, and Norwegian marble; and order, neatness, and elegance are manifest. Population 100,000.

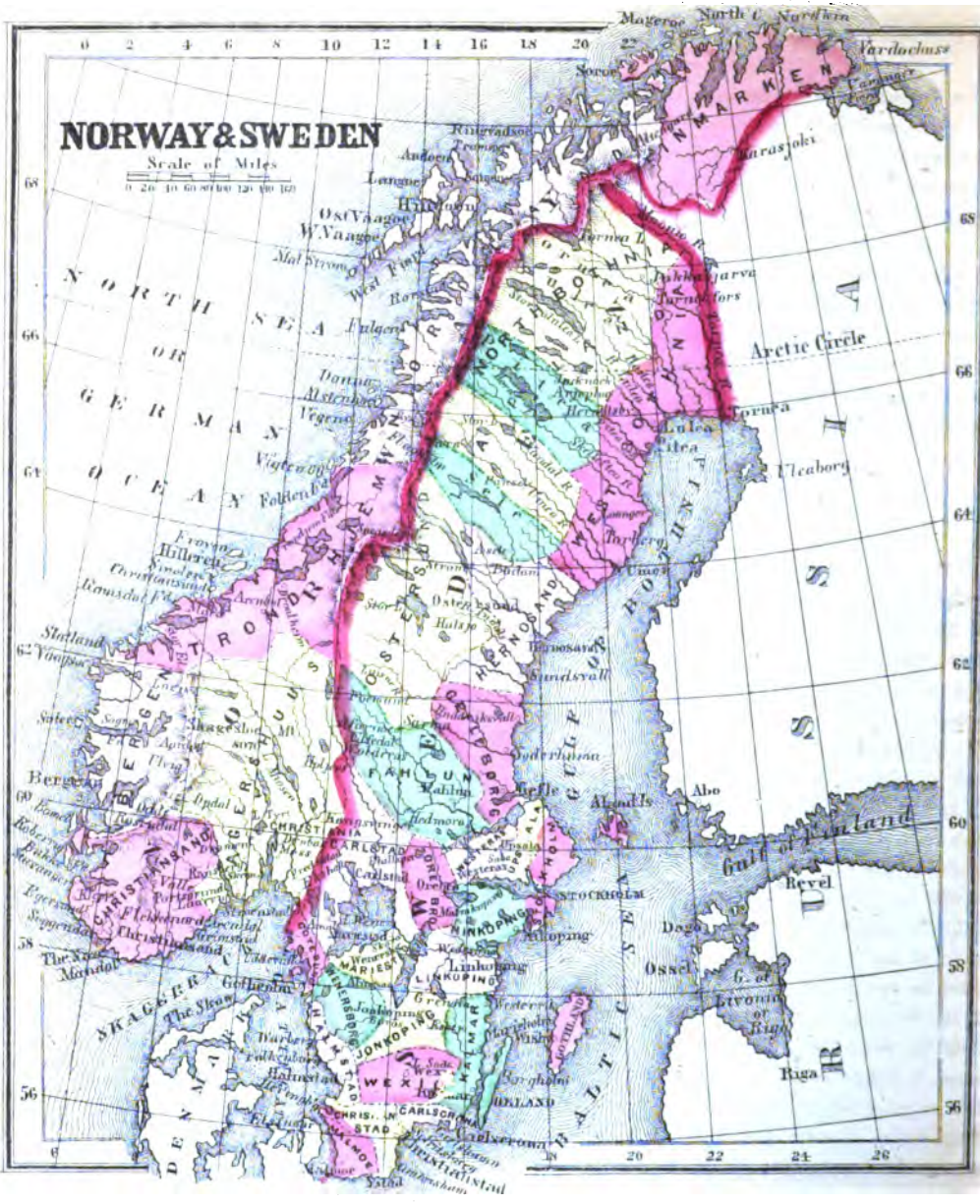
ICELAND is situated in the Atlantic ocean, on the borders of the frigid zone, 160 m. from Greenland, and 700 m. from Norway. It contains 30,000 sq. m., and a population of 60,000. It was formerly much more fertile than at present, though still a good grazing country. Mt. *Hecla*, an active volcano on this island, has been in a state of eruption since A. D. 1106.

History.—A Norwegian pirate, named Naddok, is said to have discovered Iceland in 861, which, however, was already inhabited by tribes perhaps



NORWAY & SWEDEN

Scale of Miles
0 20 40 60 80 100 120 140 160



from Ireland; while on the other hand, the island of *Thule*, mentioned by ancient Roman authors, was probably identical with Iceland. Be this as it may, in short, the aborigines were gradually supplanted by Norwegians, who settled here since the year 874 or 875, established a kind of republic, but were, in 1261, subjected to the sovereignty of Norway, and in this manner Denmark became possessed of the island.

The *Geyzers*, or hot springs, are very remarkable: the largest has a basin 56 ft. in diameter; the water rises and sinks rapidly; clouds of steam

escape, and a column of boiling water, 10 ft. in diameter, is sometimes thrown 90 ft. high.

Education is generally diffused, many of the peasantry being as familiar with the classics as their own tongue. Crime is unknown among Icelanders.

REIKIAVIK, the capital of Iceland, on the S. W. coast, is the seat of the Danish governor, of the bishop, of a scientific, a bible, and a tract society, and has 700 inhabitants, a cathedral built of stone, a gymnasium, an observatory, and a public library containing 6,000 volumes.

NORWAY AND SWEDEN.

THESE two countries were separate kingdoms until 1814, when they came under the government of the same king; having, however, distinct constitutions and administrations. They extend beyond the parallels of 56° 71' N. lat., and are bounded on the N. by the Arctic ocean, on the W. by the Atlantic, on the E. by Russia, the gulf of Bothnia, and the Baltic sea; and on the S. by the Skager rock and Cattagat, which separate them from Denmark. Their greatest length is about 1200 m., with a width varying from 200 to 400 m.; area 323,360 sq. m. Sweden contains 172,189, and Norway 151,171 sq. m. A grand chain of mountains, over 1000 m. in length, separates the two countries. This chain runs parallel to the Norwegian coast, and varies in height from 3000 to 6000 feet. The highest point in the range is, Scagstlostind, in the southern or Dovrefield range, which is 8,400 ft. above the sea-level. Magnificent glaciers and cataracts are found among these mountains. Immense pine forests: valleys in summer rich in various foliage, foaming

cataracts and naked precipices, render the scenery extremely wild and romantic. The coast is high and rugged, and in the Baltic broken into many islands. On the Norwegian coast, the beating of the waves of the Atlantic has formed innumerable islands and extensive *fjords*, lochs or inlets of the sea. Among the Luffoden isles, off the coast of Norway, is the celebrated Whirlpool or *Mælstrom*, and is by some supposed to communicate with a subterranean passage through which the sea finds its way into the gulf of Bothnia. Others maintain that the pool is formed by the meeting of the tides at this point, which is most probable. The diameter of the whirlpool is about 2 m., concave towards the centre, like a funnel where the hissing waters foam, and rush with fearful velocity, especially during storms. Ships, and even whales, once drawn within the edge of the vortex, are said to be sucked down; but with a favorable breeze, a ship may safely approach it within two or three miles.

The rivers are numerous, descending from the

mountains. They are rapid and much obstructed by cataracts and shoals, hence they are not navigable or of great length; they are used, however, in floating timber from the mountains.

These countries abound in lakes, and some are of considerable size. Lake Wener, in the S. of Sweden, is 100 m. long by 50 to 60 m. broad, and 147 ft. above the sea-level, surrounded by steep, red granite rocks, interspersed with noble forests. Wetter lake is more than 100 m. long, by 20 broad; Malar lake, on which Stockholm is built, is 60 m. long by 18 broad. These three lakes are united by the Gotha canal, 7 ft. deep by 22 broad, which afford (from April to November) a passage for vessels from the Baltic to the North sea. This great work was executed by the Swedish army, at a cost of \$3,750,000. Norway has also many lakes—Mjosen, 60 m. long by 18 broad; Rund Sion is 50 m. long, with a breadth of only 2 m.; Faemund, 35 m. long by 8 broad. Floating islands, composed of matted turf and sea-grass, with shrubs, give a pleasing effect to the inland waters. There is no country in Europe of equal size presenting such grand and picturesque scenery, by flood and field, as Norway and Sweden. The extraordinary clearness of the water of the *fjords* of Norway, and the Northern sea generally, has been noted by all travelers, especially by Sir A. de C. Brooke, who states that the bottom of white sand was clearly visible, with its minutest objects, at a depth of 20 to 25 fathoms. There are about 360 mineral springs in Sweden; the baths of Medevi and the wells of Loka Säter, Ramlösa, and Rottenby are celebrated.

The northern portions of these countries, extending within the Arctic circle, are exposed to all the severities of a polar winter. During the winter solstice, the sun does not appear above the

horizon for months. The *Aurora Borealis*, or Northern Light, is here seen in all its brilliancy, which, in a measure, compensates for the absence of the sun. From November to March, the gulf of Bothnia is frozen over, and travelers pass from Abo, by the Aland islands, to Stockholm. The spring and autumn are very short, as the heat of summer so suddenly succeeds the cold of winter. In southern Norway, the longest day is 18½ hours; the shortest, 5½ hours. In the middle districts, the longest day is 21 hours; the shortest, 3 hours. The soil is generally very poor, though there are some fertile spots. The greater part of Lapland is sterile, covered with rocks, peats, moss, and gravelly plains.

History.—The Swedes and Norwegians are of Germano-Celtic origin, and their language, although different, has many points of resemblance. Both nations are brave, frank, honest, manly and simple; they make good soldiers and excellent sailors, and their hospitality is the theme of all travelers who have visited their country.

SWEDEN, originally peopled by the Finns and Lapponians, was reduced to a regular form of government, A. D. 954, by Olof, one of the Upsala kings, who embraced Christianity; for many centuries, the Goths and Swedes remained distinct tribes, but A. D. 1250 became one nation. Queen Margaret of Denmark, by the treaty of Calmar, A. D. 1397, united Sweden and Norway to her dominions; but in 1448, they separated from Denmark and chose their own king. In 1520 Christian II. of Denmark conquered Sweden; in 1521 a Swedish nobleman named Gustavus Vasa drove out the Danes, and was proclaimed king in 1523, and the throne settled on his descendants; one of whom, Gustavus Adolphus, fell at the battle of Lutzen in supporting the Protestant German

princes. Christina, his daughter, by the aid of her able minister, Oxenstiern, generals, and army, added largely to the Swedish dominions ; but she abdicated the throne in 1654, and retired to Rome, where she died in 1689.—Sweden had attained great prosperity when Charles XII. ascended the throne ; but during his reign, from 1697 to 1718, the nation was engaged in constant wars until his death at the siege of Friedrickshall, gave peace to the country. During the French revolution, Sweden alternately aided or opposed France ; in 1810, the Swedish states elected Bernadotte as their sovereign, who embraced the reformed faith, fought against Napoleon, in 1814 obtained Norway and gave up Swedish Pomerania to Denmark ; and his son, Francis Gustavus Oscar, is now king of Sweden and Norway.

Geology.—Sweden is rich in minerals. Gold is found on the table-land of Småland, at Adelfors, but no mines are worked. Silver-mines are worked at Sala ; in Westeras Län, at some other places, and in Falu Län. The annual produce of the copper-mines amounts to nearly 1000 tons ; the richest mines are those at Falun in Falu Län and at Otvidaberg in Linköping Län. Lead mines are worked in Westeras and in Falu. Iron-ore is found in nearly every district of Sweden, with the exception of the plain of Scania, where no iron ore exists ; the best iron is obtained from the mines of Dannemora in Upsala Län. The annual produce of the iron mines of Sweden amounts to more than 67,000 tons of bar iron.

Vegetation is regulated by latitude and altitude ; in Norway, fruit trees flourish at an elevation of 1000 ft. ; spruce fir, at 2,000 ; silver fir and beech, at 3000 ; and the juniper alone, at 3,200 ft. above the sea. Barley and oats thrive in sheltered valleys at 1,600 ft. ; snow limit is 3,500 to 4,000 ft.

The forests of Norway and Sweden are immense ; fir, pine, oak, beech, and elm grow to a gigantic size, and are a great source of wealth : general vegetation and fruits are scanty, and of few varieties.

The animals are the wolf, bear, reindeer, elk, lynx, glutton, beaver, and lemming or Norway mouse. The rivers abound in fish.

Manufactures have been fostered in Sweden by a system of prohibitions and severe restrictions. The most important industrial establishments are confined to the large towns, which consists of sugar-refineries, cotton and silk factories, tanyards, woolen-cloth mills, etc. The other products are paper, cotton-yarn, glass, morocco leather, printed cottons, and linens, seed-oils, pottery and china-ware, etc. Very few of the articles named are exported from Sweden, and none to any considerable amount.

STOCKHOLM, the capital of Sweden, is situated on an inlet of the Baltic, opposite the gulf of Finland. Public edifices, church spires, waters studied with islands, villas and gardens, all combine to produce a fine picture. Population, 93,070.

BERGEN, the capital of Norway, built on one of the inlets of the Atlantic, has a good harbor, and a few stone edifices, such as the castle and cathedral ; the houses are chiefly built of wood. Population, 25,611.

The *Government* is a limited monarchy, with a diet, or parliament of two houses, in which the four orders of nobles, clergy, burghers, and peasants are represented. Similar constitution as Norway. A council of state advises the sovereign.

The *Army* consists of 10,000 to 15,000 troops ; and the *Navy* of several ships of the line, many armed galleys adapted for the Baltic, and about 20 steamers.

THE EMPIRE OF RUSSIA.

THE most extensive and one of the most powerful empires of either ancient or modern times, occupies almost the entire northern portion of the eastern hemisphere, embracing, in its immense area, more than half of Europe, and one third of Asia. It is bounded on the north by the Arctic or Frozen ocean; on the west by Sweden, the Baltic, Prussia, and the Austrian dominions; on the south by Turkey, the Black sea, Persia, Tartary, and the extensive Chinese territories; and on the east by the North Pacific ocean. Tooke, in his history of Russia, computes its extent to be nine thousand two hundred miles in length, and two thousand four hundred in breadth; while its superficial area included within the above boundaries has been variously estimated from six to eight millions of square miles. This is three or four times the extent of the Roman empire in the height of its grandeur, and in the period of its greatest territorial amplitude. A better idea may perhaps be formed of the vast dimensions of the Russian empire, by taking into view the fact that it is equal to two Europes, or the whole of North America; that it includes within its boundaries about 1-7th of the territorial part of the globe, and about 1-27th part of its entire surface.

Physical Aspect.—Russia is, in general, level, and comprises some of the most extensive plains in the world. The empire, however, is naturally parcelled into the two great divisions of European and Asiatic Russia, by the Ural mountains, which stretch in a north-northeast direction from the Caspian sea to the Arctic ocean; forming, through the greater part of their course, the boundary between Europe and Asia. Compared with

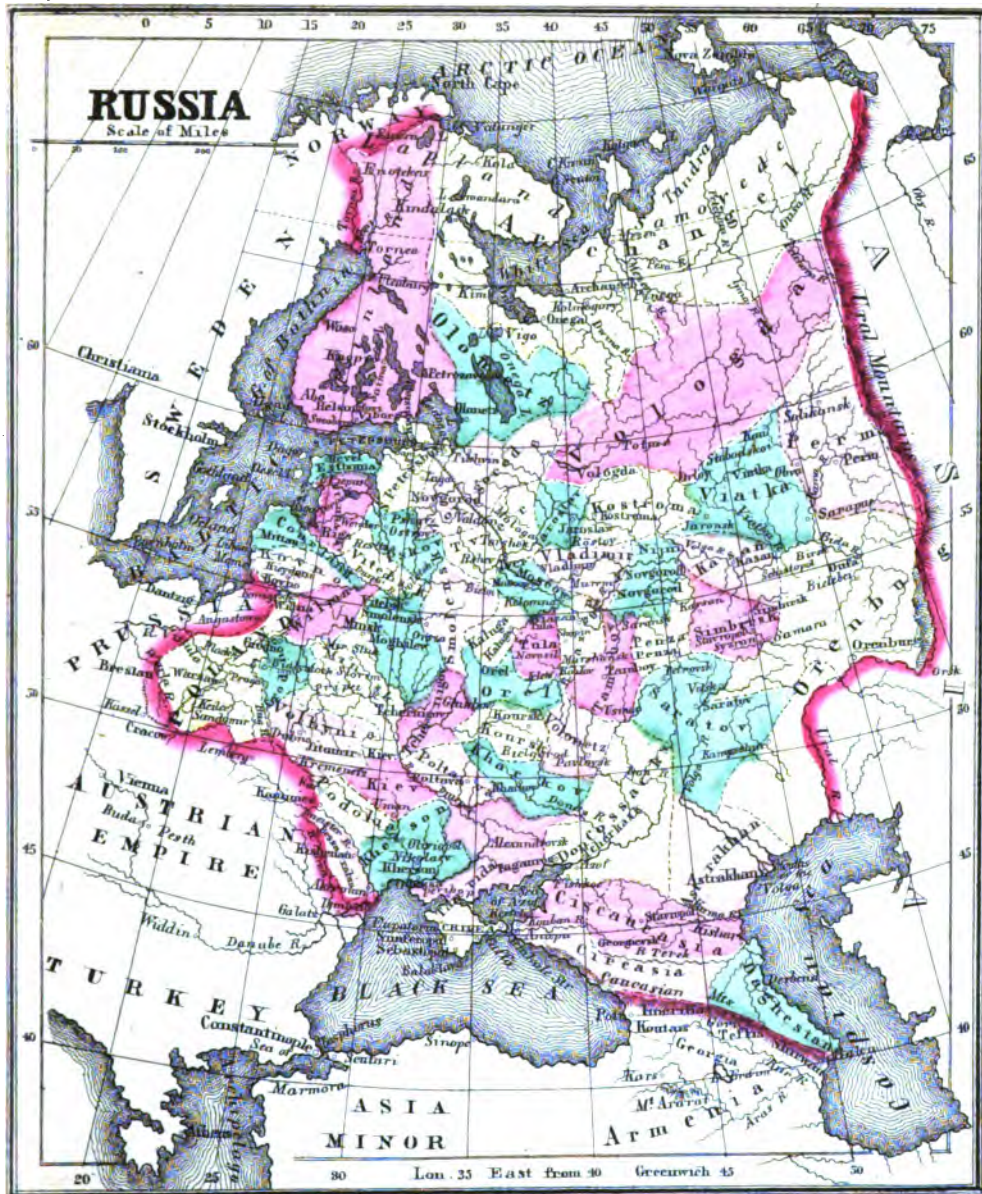
the Himalaya chains, the Urals are very low in their general elevation, though some of them reach the limit of perpetual snow, a circumstance which is not remarkable in their high latitude.

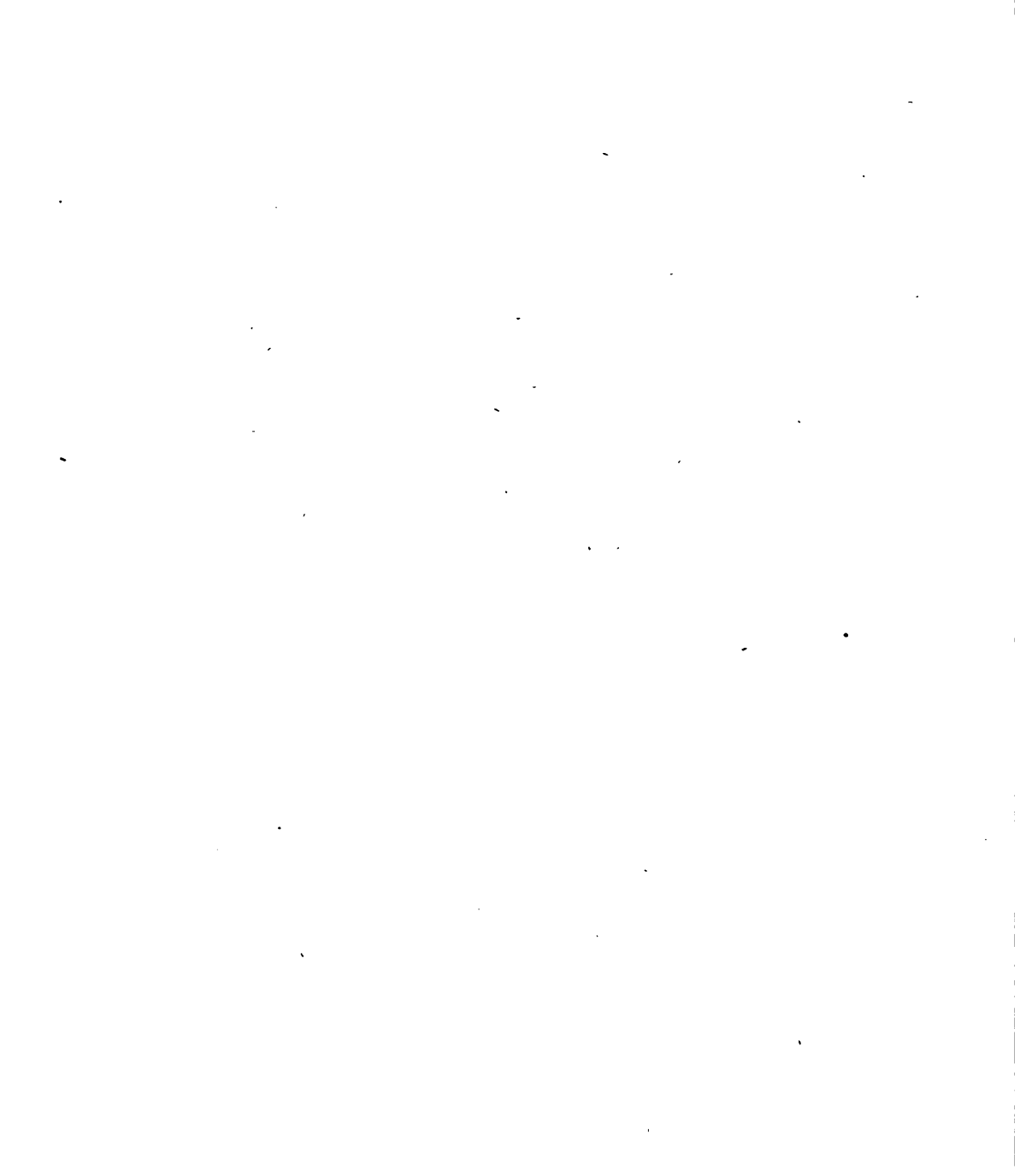
In all the vast country, extending on the west side of this central chain to the confines of Poland and Moldavia, there is hardly a single hill. There is nothing, in fact, save the forests, to break or interrupt the course of the wind, in all the immense space interposed between the Ural and the Carpathian mountains.

Geology.—Stratified rocks appear at the bottom of the mountains, and raise to a considerable height on their sides. These rocks consist chiefly of thick beds of limestone, conglomerate, and clay slate. Higher up are seen immense crystalline masses composed of granite, sienite, serpentine, and gabronite. These masses, though higher in position, are evidently lower in the geological series than the stratified rocks, which in many places have been upheaved by them, and in consequence have a considerable dip. Highest of all is trachytic porphyry, which forms the great body of all the principal summits of the central range. That this trachyte is the most recent of all the rocks is proved by the fact, that in many places it is seen piercing them, and throwing them into the wildest confusion.

Animals.—The forests abound with almost every species of game—among quadrupeds, wolves, boars, jackals, deer, goats, and hares—among birds, pheasants and partridges. A large species of wild cattle, called *aurochs*, roam at large, and the hares of the Caucasus have been famed from the remotest antiquity.

Scale of Miles





History.—The earliest annals of Russia only furnish occasional glimpses of numerous barbarous hordes roaming over its surface. These nomadic tribes, classed under the common appellation of Sarmatians and Scythians, at a very early period began to menace the Roman frontiers, and even before the time of Cyrus the Great had invaded what was then called the civilized world, particularly southern Asia. They inhabited the countries between the Don and the Dnieper. The Greeks early established colonies here; and in the second century the Goths came from the Baltic, and, locating in the neighborhood of the Don, extended themselves to the Danube. The Slavonians, coming from the northern Danube, and spreading themselves along the Dnieper, in the fifth and sixth centuries, early acquired, from a commerce with their southern neighbors, habits of civilized life, and embraced the Christian religion. They founded in the country afterward called Russia the two cities of Novgorod and Kiev, which early attained a commercial importance. But Novgorod found another and more formidable enemy in the Varagians, a race of bold pirates who infested the coasts of the Baltic, and who had previously subdued the Courlanders, Livonians, and Esthonians. To these bold invaders the name of *Russia*, *Russes*, or *Russians*, is thought by the most eminent authors to owe its origin. In these dark ages the country was divided among a great number of petty princes, who made war upon each other with great ferocity and cruelty, so that the people were reduced to the utmost misery; and the Slavonians, seeing that the warlike rovers threatened their rising state with devastation, were prompted by the necessity of self preservation to offer the government of their country to them. In consequence of this

a celebrated Varagian chief, named Rurik, arrived in 862, with a body of his countrymen, in the neighborhood of lake Ladoga, and laid the foundation of the present empire of Russia.

Till the accession of Peter the Great, in 1689, the history of Russia was the history of barbarism everywhere, but this monarch gave character to the empire, extended its commerce, and consolidated its power. Peter was succeeded by his consort Catherine, in whose favor he had, some years before his death, altered the order of succession. She was the illegitimate daughter of a Livonian peasant. After some years spent in the service of a clergyman, she married a Swedish dragoon, who shortly afterward went on an expedition, and never returned. She then resided, it is doubtful whether as servant or paramour, with the Russian general Bauer, when Prince Menchikoff became enamored of her charms, and made her his mistress. Peter the Great now distinguished her by his notice, and she became at first his mistress and afterwards his empress.

Catherine I. conducted herself with great gentleness and prudence in the administration of the government. In her brief reign the boundaries of the empire were extended in the Trans-Caucasus. Catherine also founded the Academy of Sciences. Her indulgence in the use of intoxicating liquors produced a disease of which she died on the 17th of May, 1727, at the age of 41, having reigned only about two years. Catherine settled the crown on Peter, the son of Alexis, and grandson of Peter the Great, by his first wife, Eudoxia, and who succeeded by the title of Peter II. This prince was only twelve years of age when he succeeded to the imperial throne, and his reign was short and uninteresting. He was succeeded by Anne the duchess of Courland, who rendered herself memor-

able by the decisive turn she gave to the contests which arose in central Europe. She assisted the emperor Charles VI. of Germany; frustrated the schemes of the French ministry for placing Stanislaus on the throne of Poland, and actually procured the crown for his competitor Augustus, the elector of Saxony. Anne died in 1740, after a reign of ten years, and was succeeded by her great nephew, Ivan VI., when only two years of age. The princess Elizabeth Petrowna, daughter to Peter the Great by the empress Catherine, and born in 1709, now formed a respectable party in her favor, by whom she was raised to the imperial dignity in December, 1741. She was a model of dissimulation and hypocrisy. On the demise of Elizabeth, her nephew, the grand-duke Charles Peter Ulric, ascended the throne, by the name of Peter III. His reign was unimportant. He was married in 1745, to the German princess Catherine, born in 1729, and daughter to the prince of Anhalt-Zerbst. In addition to his other great faults, Peter was addicted to low society and to the most scandalous excesses; and Catherine, even in her youth, was by no means remarkable for chastity; talented as she was ambitious, she took every means in her power to secure the good will of her Russian subjects. She engaged in her party many of the principal families, and what Peter lost in popularity was gained by the emissaries of Catherine. She at length formed a plan for his destruction, which was consummated by his assassination by her orders, July, 1762, when she was crowned empress, under the name of Catherine II. The reign of this extraordinary woman is one of the most remarkable in Russian history.

Dec. 25, 1825, the late Emperor Nicholas was crowned; he wielded for more than 20 years, with

most consummate ability, the vast resources of the most extensive empire in the world. He constructed a grand railway from Moscow to St. Petersburg, 406 m., and commenced one from St. Petersburg to Warsaw, (now 1857,) in process of construction, 673 m. On his death, his son, Alexander II. was proclaimed Emperor. Limited space forbids our going into the details of the late war with Turkey, backed by England and France, which resulted in little else than the expenditure of \$2,000,000,000; 500,000 lives; commercial prostration, and individual ruin.

Government.—Absolute monarchy, but administered according to law.

Army—Contained in 1855, 1,000,000 men.

Navy.—In 1854, 60 ships of the line, 37 frigates, 70 corvettes and 40 steamers.

Education.—There are many seminaries of a superior character, but the masses are ignorant. Excepting the Chinese, there is, perhaps, no language in the world so fraught with difficulties as the Russian. In the first place, the alphabet possesses nine more letters than the Roman or our own, and is made up of Greek, Roman, and Slavonic characters.

St. PETERSBURG, founded by Peter the Great, 1703, has more external magnificence than any city in the world; its libraries contain 600,000 volumes. The imperial winter palace situated here, is without a rival. Pop. 550,000.

Moscow, the ancient capital, is in a beautiful plain, on the Moskara, it was burnt in 1812, to prevent the French army from wintering there, but has been rebuilt. It contains the Kremlin, a castle enclosed by a wall 60 feet high, within which is the ancient palace and sepulchre of the Czars. This city contains a bell 21 feet high and 22 feet in diameter, cast in 1737. Pop. 374,000.





TURKEY IN EUROPE.

TURKEY in Europe is bounded on the N. by the Austrian and Russian empire ; E. by the Black Sea, the Sea of Marmora and the Archipelago ; S. by Greece ; and W. by the Adriatic Sea.

European Turkey comprises but a small portion of the Turkish empire. The empire directly or indirectly extends its sway over many parts of Asia and Africa. The capital and seat of government are, however, in European Turkey. The whole empire contains 1,826,228 sq. m., with a population of about 36,600,000, of which 203,216 square miles are in Europe, with a population of 15,500,000. Turkey in Asia contains about 668,441 sq. m., with a population estimated at 16,050,000. Africa contains 954,571 square m., with a population estimated at over 5,000,000.

History.—The Turks, it is supposed, originally came from the high central regions of Tartary. In the tenth century they entered Persia through Khorassan. Crossing the Euphrates they attacked and overcame the Grecian empire, and the Saracen princes. The whole of Western Asia soon became subject to them. Their outrages aroused the Christian nations of Europe, and gave rise to the crusades. At the same time the Mongols under Zingis having subjugated Tartary, overran Persia, and at the end of the thirteenth century they were reduced to a number of scattered tribes occupying the mountain districts of Asia Minor, tributary to Mongul Khans of Persia. In 1299 Othman or Ottoman, one of their chiefs raised an independent standard, assumed the title of Sultan, and was the founder of the Ottoman empire. In 1357, the Turks first obtained a foothold in Europe. Mohammed the II., in 1453, took Con-

stantinople, causing the overthrow of the Grecian empire. The empire was at the height of its prosperity under Soliman II. in 1519. During the 17th century the power of the Ottoman empire began gradually to decline. In the eighteenth century the Russians overcame them and greatly weakened their power, which is now in a great part maintained by the governments of Western Europe.

The immediate possession of Turkey in Europe are : Thrace, area 9,555 m., Macedonia and Thessaly, 28,588 m., Albania, 18,918 m., Bosnia, including Croatia and Herzegovina (Dalmatia,) 26,923 m., Bulgaria, 39,046. The Archipelago, 11,911, Crete or Candia, 3,249, making a total of 138,160 sq. m. The mediate possessions are nominally subject to Turkey ; they pay an annual fixed tribute to the Sultan ; but they are independent in local affairs, and are each governed by their own native prince, these tributary provinces are Moldavia, area 1,567 sq. m. ; pop. 1,400,000 ; Wallachia, area 28,239 sq. m. ; pop. 2,600,000 ; Servia, area 21,190 sq. m., pop. 1,000,000. Russian influence is strong in Moldavia and Wallachia. Servia is more independent, and has lately made great advances in civilization.

The mass of the inhabitants are composed of Groeks, Armenians, Jews, Albanians, Gypsies, etc. The Turk has long been described as ignorant, arrogant and cruel ; treacherous to enemies and perfidious to friends. Though he is naturally sedate and placid, his rage when once aroused is furious and ungovernable, like a brute. They are however temperate, honest in their business dealings, cleanly in their persons, and charitable to

their poor, which is mostly the result of their religion. They bear a strong hatred to those differing from them in religious belief and are extremely fanatical.

The religion of Mahomet is the religion of the State. Agriculture has received but little attention, being checked by arbitrary exactions and wars in many of the richest provinces; yet the soil is generally very fertile and excellent—grain grows in the plains of Roumelia, Bulgaria, and the banks of the Danube. Much live stock is raised, the horses and cattle are generally of very fine breed.

The manufactures consist chiefly of domestic articles, but have been on the decline since Great Britain and other European countries commenced importing. The manufactures of fine silk goods, leather, carpets, and of metals, are still carried on to a large extent in Constantinople, and other large towns. Its commerce is chiefly carried by foreigners, and is mostly confined to the port of Constantinople, which is most advantageously situated for that purpose.

The rivers, excepting the Danube, are not very important; this river, one of the largest in Europe, flows through the northern part of Turkey; owing to the barbarism of the government and the hostility of neighboring nations, it has become more famed in the annals of war than in the records of commerce.

The government is in form an absolute despotism, but at present, in consequence of political reforms introduced by the late Sultan, as well as by the present, it is limited and somewhat liberal. The chief officer of the administration is called the Grand Vizier. The Mufti is the chief interpreter of the law, and he ranks next in dignity to the Sultan. Governors of provinces are styled

Pachas or Bashaws, and are of three different ranks, denoted by the number of horses' tails on their standard.

Minerals.—Crystalline schists, composed of gneiss and mica, and chlorite slates form the bulk of the mountain chains. Many of the veins which traverse the crystalline schists are found to contain some of the metals, and lead has been obtained which yielded a considerable percentage of silver. Iron of the best quality is very abundant.

Education is in a low state, but the government has established schools of a high order latterly.

CONSTANTINOPLE, the capital, is situated on the N. side of the Sea of Marmora. There are 28 gates of entrance. The mosques and minarets give to the city an imposing and picturesque appearance from without. Its streets are narrow, crooked and dirty, and its houses are low and roughly built. It is amply supplied with water by a great number of public fountains, and is thoroughly drained, since it is built on a series of gentle hills. Constantinople was originally founded by Byzas, B. C. 655, and the site of the ancient city of Byzantium is supposed to be included between the present limits of the seraglio. It was rebuilt by Constantine in the year 328, who gave it his name. It has been subjected to numerous sieges, but has been taken only twice, viz., in 1204 by the Crusaders, who retained it until 1261, and in 1453 by the Turks, under Mohammed II. Its estimated population is 786,990.

The other chief towns are Adrianople, population about 114,000; Salonika, pop. 78,000; Bona; Serai, 65,000; Sophia, 47,000; Scutari, 40,000; Janiua, 36,000; Rustchuck, 30,000; Phillippoli, 30,000; Sarissa, 30,000; Shumla, 20,000; Silistina, 20,000. (For description of Greece, see p. 120.)





THE CONTINENT OF ASIA.

"THE CRADLE OF MANKIND" is a term which nearly all modern geographers apply to this greatest portion of the globe; and as we are rather prone to follow this expressive idea, which seems to imply that the giant world of our day was yet in its infancy when Asia had reached its mighty maturity, we are willing to incur the charge of "borrowing the thunder" of those who have preceded us. Although unacquainted with its extreme northern and eastern limits, the ancients appear to have supposed that its shores were washed by three different oceans, and that its westerly boundary was the largest known inland sea*—the Caspian; the true position of this last, however, was evidently unknown to Strabo and Ptolemy; for the former believed it to communicate with the Northern Ocean, and the latter in his map placed its length from E. to W., instead of from N. to S. All the accurate knowledge of the Greeks and Romans respecting Asia was confined to the countries which slope down southward from the great mountain chain formed by the Caucasus and its prolongation beyond the Caspian to the Himalayas: of the elevated steppes between these mountains and the central range of the Altai, (from which the northern regions of Siberia again slope down to the Arctic Ocean,) they only knew that they were inhabited by nomadic tribes, except the country directly north of Ariana, where the Persian empire had extended beyond the mountain chain, and where the Greek kingdom of Bactria had been subsequently established.

Boundaries.—There were great differences of opinion among the geographers of antiquity as to

the boundaries of this continent: some divided the whole world into only two parts—Europe and Asia—and they were not agreed to which of these two Africa belonged; those who recognized three divisions, differed again in placing the boundary between Asia and Africa either on the west of Egypt, or along the Nile, or at the Isthmus of Suez and the Red sea; and the last opinion gradually prevailed: so that, on the side of Europe, Asia was bounded by the River Don, the Sea of Azof, the Black Sea, the Sea of Marmora, and the Archipelago. The southern part was supposed to extend much farther east than it really does, (about 60° of longitude too much, according to Ptolemy,) while to the north and north-eastern parts, which were quite unknown, much too small an extent was assigned.

Division.—The most general division was into two parts, which were different at different times, and known by different names; but we shall only notice the one adopted about the fourth century of our era, which was that of Asia Major and Asia Minor. The first was that part of the continent east of the Don, the Black Sea, an imaginary line from the last at Frebizond to the Gulf of Issus, and the Mediterranean; and included the countries of Sarmatia, Asiatica, with all the Scythian tribes to the east, Colchis, Iberia, Albania, Armenia, Syria, Arabia, Babylonia, Mesopotamia, Assyria, Media, Susiana, Persis, Ariana, Hyreania Margiana, Bactriana, Sogdiana, India, and the land of the Sinae and Serica. The second comprises the peninsula on the extreme west of Asia, bounded by the Black Sea, the Archipelago, and the Mediterranean, on the north, west and south;

* See maps of Ptolemy and Eratosthenes.

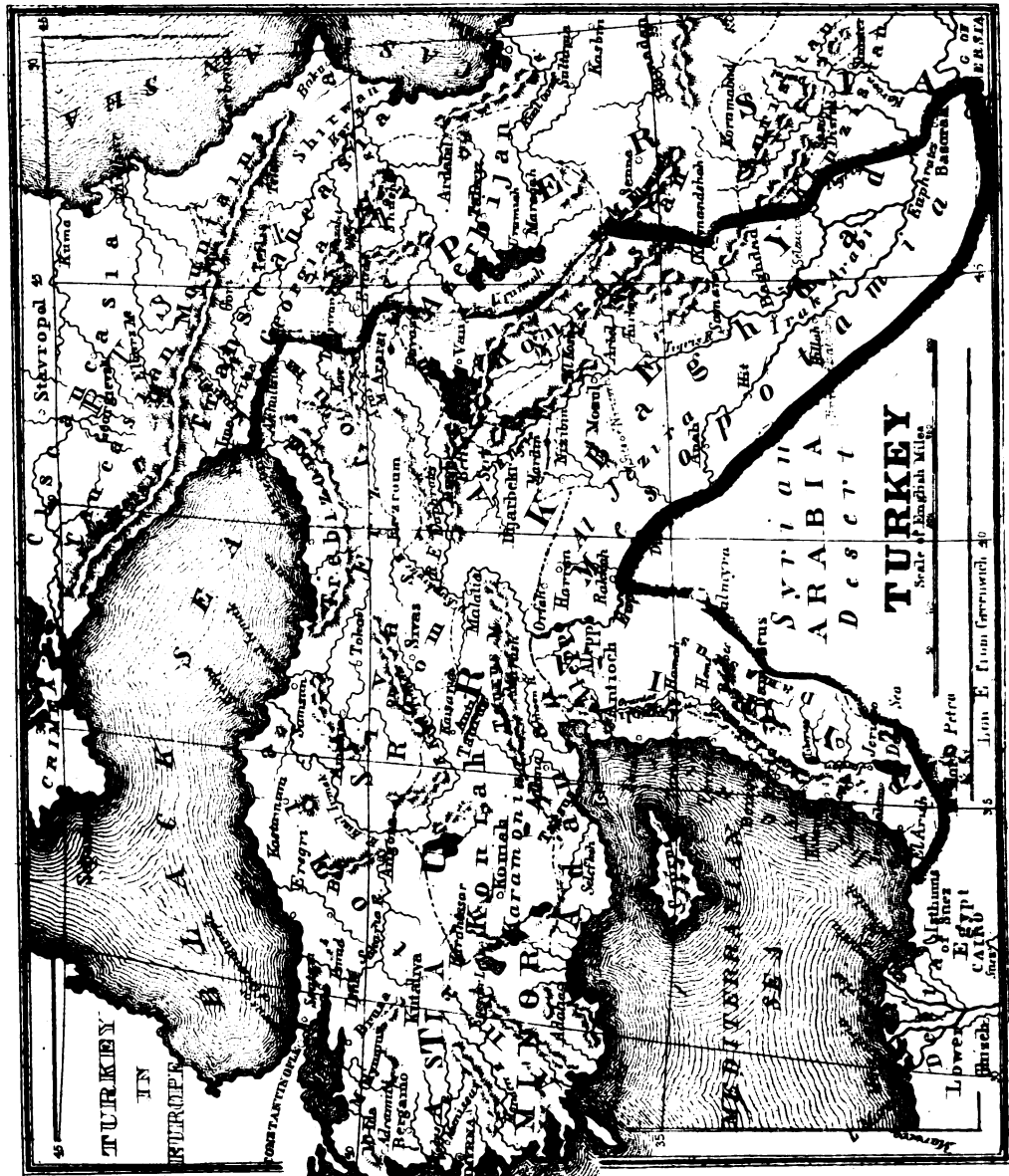
and on the east by the mountains west of the upper course of the Euphrates. It was, for the most part, a fertile country, intersected with mountains and rivers, abounding in minerals, possessing excellent harbors, and peopled from the earliest known period by a variety of tribes from Asia and Europe. It comprised Mysia, Lydia, and Caria on the west; Lycia, Pamphylia, and Cilicia on the south; Bithynia, Paphlagonia, and Pontus on the north; and Phrygia, Pisidia, Galatia, and Cappadocia in the centre.

Of the three great belts into which Asia is divided, and with which the geographic distribution of its animals has been observed to correspond, SIBERIA, (Asiatic Russia,) constitutes the third and most northerly. Its features are peculiar to itself, and, like those of other portions of this continent, on a gigantic scale. As those of the south include the most extensive and populous empires in the world, and the middle tracts the widest range of pastoral table-land, so the northern regions of Asia present an almost unbounded expanse of frozen desert. Some of the plains, indeed, of its southern border are covered with deep and rich pasture, and, under a more careful tendence than they have yet received, might become the seat of populous kingdoms. But as we proceed to its northern boundaries and the bleak shores of the ocean, human life, with the means of supporting it, becomes more and more deficient. Even here, however, that beneficent contrivance which presides over nature has provided for the support of a profusion of animals. That severity of the cold which would otherwise be fatal, is guarded against in some by a thick coat of fat and unctuous substances; in others, by skins and furs, much richer, softer, and more beautiful, than those which clothe the tenants of the more favored regions. The

substances which communicate to these classes of animals the power of resisting the fiercest colds of the north, become, with little preparation, eminently useful and ornamental to man; the midnight gloom is enlivened, and the pomp of kings derives one of its most splendid decorations from commodities furnished by the shivering hunter of the polar desert. Siberia may be divided into two great regions, Western Siberia and Eastern Siberia. Western Siberia includes the governments of Tobolsk, Tomsk, and Yeniseisk, and the province of Omsk; the Eastern includes the government of Irkoutsk, the province of Yakutsk, the districts of Okotak and Kamschatka, and the countries of the Kirghisses and the Tchutchi. And, although the intentions of the general government are good, it is inevitable that, in the distant establishments, opportunity must be given both for embezzlement and oppression. "God is high, and the emperor far off," is said to be a maxim extensively acted on.

Another feature of this grand division is found in the desert tract in the S. W. known as ARABIA. This wilderness forms a gulf, as it were, between two of the finest portions of the continent—Syria and Palestine, on the west; and the once great empires of Babylon and Assyria, now sunk into the Turkish pachalic of Bagdad, on the east. This tract of Arabia, continually narrowing northward, is finally closed at an angle, as it were, by the lofty mountain heads of the Euphrates and the Tigris. In all Arabia scarcely a river can be said to exist. Torrents alone are seen dashing down the rocks, and are absorbed in the sand. This country is remarkable for having given birth to one of the most successful impostors the world has ever seen, in the person of Mohamet, who founded the faith that bears his name, A. D. 569.





TURKEY IN ASIA.

TURKEY IN ASIA, the E. portion of the Turkish or Ottoman empire, over which the Sultan, residing at the capital (Constantinople, in Europe), extends his rule, though in many places only nominal, is bounded N. by the Black Sea and Sea of Marmora, E. by Transcaucasia and Persia, S. by Arabia, and W. by the Mediterranean Sea and the Archipelago. There are several islands belonging to this country, the chief of which are Scio, Samos, Nicaria, Mytilene, Patmos, Cos, Rhodes, Scarpanto, and Cyprus, in the Mediterranean. Area, 668,441 sq. m. It is divided into Asia Minor, Armenia and Koordistan, Syria and Arabia, with a total population of about 16,050,000. The population consists of Arabs, Armenians, Druses, Greeks, Koords, Turks, Syrians, Chaldeans, and Toorkomans. The Mohammedan religion prevails; their number is estimated at nearly 13,000,000; of Greeks and Armenians, 2,360,000; of Roman Catholics, 640,000; and Jews, 100,000.

The surface of the country consists of two plateaus and a vast plain. The first plateau, extending from the Archipelago to the frontier lines of Persia and Transcaucasia, and embracing the N. part of the country, is elevated from 4,000 to 5,000 feet above the sea, and is traversed by the Taurus and Anti-Taurus Mts. The other plateau, occupying the W. part, and including Syria and Palestine (also the valley of the Jordan, which is 1,300 ft. below the level of the sea), is crossed by the Alma Dagħ range, an arm of the Taurus Mts. East of this plateau, and S. of the first named, is the basin of the rivers Tigris and Euphrates, comprising the plain of Irak and Mesopotamia,

divided by numerous mountain ridges. The Dead Sea, about 60 m. long and 9 broad, with a depth of 1,000 ft., receives the waters of the river Jordan, after a total course of about 120 m. On its S. W. side is a mountain of rock-salt, called Hajr Posdoom, or Stone of Sidon, near the locality of the city whose destruction is recorded in the 19th chapter of Genesis. The chief rivers are the Euphrates and Tigris; the former has its sources near the Caspian, Black, and Mediterranean Seas. Its total course is about 1,780 m., and it is navigable for 1,195 m. On it, at about 300 m. from its mouth, are the ruins of Babylon. The Tigris has a total course of 1,150 m., and falls into the Euphrates 120 m. from its mouth. It is navigable for rafts, during the high-water season, between Diyarbeker and Mosul.

The government is administered by Pashas appointed by the Sultan, being dependent on his caprice; the extent of the divisions is unknown.

The soil and climate are various: in the S. are deserts; on the river banks and in the valleys of Lebanon it is fertile; in the vicinity of Mt. Taurus is found the vegetation of the temperate climates; in the valleys the temperature and vegetation are nearly tropical. E. of the Euphrates rice and wheat are grown; in Syria, wheat, barley, mace, and millet; but, owing to the rude method of cultivation, these crops often fall short. Cotton and mulberry grow on the coast. Other products are sugar, olive oil, gums, madder, poppies, figs and grapes. In the Southern part, large quantities of roses are raised for making the attar of roses.

The manufactures are chiefly domestic carpets, saddles, leathers, linen, and a few cotton fabrics.

Lead and iron, copper and tin, with some silver, are found.

History.—In 1214, Soliman, Prince of Nera, on the Caspian Sea, passed Mount Caucasus with 50,000 men, of which the founders of the present Turkish empire—the Oghoozees, Seljooks, and Osmanlees—formed part. After their repulse by Genghis Khan, they migrated west, and a considerable tract of Phrygia was granted them as vassals. Othman, the grandson of Shah Soliman, after several victories over the Greeks, and conquests of various parts of Asia Minor, assumed, in 1289, the title of Emperor of the Othmans, thus originating the name of the Ottoman Empire. In 1389, Bayazet (Bajazet) ascended the throne; he gained brilliant conquests over the Greeks, compelling them to pay tribute, but he was defeated in 1402 by Timur, a descendant of Genghis Khan, and imprisoned for life. His grandson, Mohammed II., seized Constantinople in 1453, built the Castle of the Dardanelles, and began the regular organization of the Empire. The Persians were, during this and succeeding reigns, driven back to the Euphrates and Tigris; and during the reign of Soliman II. (styled the Magnificent), Turkey had gained her climax of military power.

The chief marts are Smyrna, Aleppo, Beyrout, Bassora, Trebizond, Baghdad, Brusa, and Damascus; but the means of communication in the interior are so poor, that commerce is kept in a very backward state.

SMYRNA, the chief commercial city of Western Asia, is situated in lat. $38^{\circ} 26' 5''$ N., and lon. $27^{\circ} 9' 7''$ E., partly on the declivity of Mons Pagus, which is crowned by a citadel. It has a fine appearance from the sea, but its streets are

narrow and houses poor. The principal buildings are, the bazaar, market-place, palace of the Governor, new barracks (for 3,000 men), several synagogues and mosques, and a large Armenian academy.

DAMASCUS is beautifully situated at the base of the Anti-Libanus range of mountains, in a plain of great fertility, covered with orchards, watered by the Barruda, and rich in fruits, foliage, etc. Lat. $33^{\circ} 27'$ N., and lon. $36^{\circ} 25'$ E. It is supposed to be the oldest city in the world. All travelers concur in their admiration of it, its bazaars, mosques, monasteries, and temples of various kinds being remarkable for their architectural beauty. The gate of the great Khan is one of the finest specimens of Moorish art. There are numerous factories of silk, damask, cotton, etc., the looms numbering about 4,000. The streets are, however, generally poor. The city is 6 m. in circumference, and is surrounded by a dilapidated wall.

JERUSALEM, or the "Holy City," 2,660 ft. above the sea, in lat. $41^{\circ} 46' 43''$ N., and lon. $35^{\circ} 13'$ E., is interesting as having been the seat of the most important events recorded in the Holy Writings. It is about $2\frac{1}{2}$ m. in circumference, surrounded by a stone wall, and entered by 4 gates. There are many religious edifices of great interest. It has a few manufactories; none of especial note.

KARS, the frontier and dominating fortress of Asia Minor, is on the Arpa chain, 105 m. N. E. of Erzeroum. In the war between Russia and the Allied Powers, it was surrendered, Nov. 25, 1855, to the Russian forces under Gen. Muraviev. Its population is about 12,000, mostly composed of Turkish Georgians.



NUMBERS, CHAP. XXXIV.

3. Your south quarter shall be from the wilderness of Zin along by the coast of Edom, and your south border shall be the outmost coast of the salt sea eastward.

4. And your border shall turn from the south to the ascent of Akkrabbim, and pass on to Zin: and the going forth thereof shall be from the south to Kades h-barnea, and shall go on to Hazar-addar, and pass on to Azmon:

5. And the border shall fetch a compass from Azmon unto the river of Egypt, and the goings out of it shall be at the sea.

6. And as for the western border, ye shall even have the great sea for a border: this shall be your west border.

7. And this shall be your north border: from the great sea ye shall point out for you mount Hor:

8. From mount Hor ye shall point out your border unto the entrance of Hamath: and the goings forth of the border shall be to Zedad:

9. And the border shall go on to Ziphron, and the goings out of it shall be at Hazar-enan: this shall be your north border.

10. And ye shall point out your east border from Hazar-enan to Shepham:

11. And the coast shall go down from Shepham to Riblah, on the east side of Ain; and the border shall descend, and reach unto the side of the sea of Chinn ereth eastward:

12. And the border shall go down to Jordan, and the goings out of it shall be at the salt sea. This shall be your land with the coasts thereof of round about.

13. And Moses commanded the children of Israel, saying, This is the land which ye shall inherit by lot, which the Lord commanded to give unto the nine tribes, and to the half-tribe:

14. For the tribe of the children of Gad according to the house of their fathers, have received their inheritance; and half the tribe of Manasseh have received their inheritance:

15. The two tribes and the half-tribe have received their inheritance on this side Jordan near Jerico eastward, toward the sun-rising.

16. And the Lord spake unto Moses, saying,

17. These are the names of the men which shall divide the land unto you: Eleazar the priest, and Joshua the son of Nun.



PALESTINE.

THIS country is situated in the S. part of Syria. In the days of the patriarchs, it was, on account of its fertility, climate, and beautiful scenery, called the "Land of Promise." "The Land of God." "The pleasant land," "The land flowing with milk and honey." Its original name was Canaan, afterwards Judah and Judea. Its length from N. to S. is about 200 m., with an average breadth of 75 m., its area is about 11,000 sq. m. The early history of this country is recorded in Holy Writ, its boundaries are set forth in the 34th chap. of Numbers, though on account of the difficulty in the translation of the Hebrew, a difficulty occurs in delineating these with accuracy. The country is traversed from N. to S. by ranges of the Mts. of Lebanon. These Mts. attain the height of nearly 10,000 ft. in Mt. Hermon. The others do not exceed 3,000 ft., but many have acquired a celebrity on account of scenes recorded in the Bible. The most remarkable are Mt. Carmel, on a promontory in the Mediterranean on the bay of Acre. Tabor (Jebel Toor,) 900 ft. high, at the N. E. extremity of the plain of Esdraelon, Gilead and Nebo, (Pisgah) on the E. side of the Jordan. Mts. Zion, Moriah and the Mt. of Olives, in and near Jerusalem. In the valleys and sides of the Mts. the soil is fertile; on account of the scarcity of water, the land has to be irrigated, and unless carefully attended to it is apt to be barren. Rivers are numerous but small, excepting the Jordan, which rises in the L. of Tiberias, 84 ft. below the sea-level, thence it flows S. into the Dead Sea, 1337 ft. below the sea-level. In the dry season the climate is fine; from Oct. to Dec. rains begin to fall accompanied by a W. wind; showers continue till March. The harvest is in May and

June. In the valleys the heat is great. Palestine for a long time was populous, containing nearly 20,000,000 of inhabitants, at present it scarcely contains 500,000, only a small portion of which are Jews, the remainder is composed of Mohammedans, Roman and Greek Catholics, and members of the Syrian church. The Jews whose number now existing on the earth, is estimated at 4,000,000, are here comparatively few; they are now scattered among all nations—a striking fulfillment of Divine prophecy.

JERUSALEM, a walled city, built on a plateau or a series of elevations of different heights, separated from the surrounding hill country by deep valleys and ravines. Population estimated at 20,000.

BETHANY, 6 m. S. E. of Jerusalem, is noted for being the birth-place of our Savior; it is a pleasant village with about 3,000 Christian inhabitants.

DAMASCUS, probably the oldest city in the world contains a population estimated at 200,000, of whom about 150,000 are permanent residents. 5,000 are Jews; 11,000 Armenians and Greeks, and a great part of the remainder are Turks.

ACRE, 27 m. S. of Tyre, is a strongly fortified port, situated on the N. angle of the bay of Acre. Ancient Capernium was on the N. W. side of the sea of Galilee. It was the residence of our Lord after his expulsion from Nazareth. The denunciation which he uttered against it, has been completely fulfilled, the very site of the place is now unknown.

SAMARIA the ancient capital of the revolted tribes, contains about 15,000 inhabitants. Ascalon, from its difficult access, was never important as a sea-port; it was anciently said to be the most impregnable town on the Philistine coast, and at the time of the crusade, was a strong city. It is now a desolation.

PERSIA.

PERSIA is bounded N. by Transcaucasia, the Caspian Sea, and Independent Tartary; E. by Afghanistan and Beloochistan; S. by the Straits Ormus and the Persian Gulf; and W. by Turkey in Asia. Its area is estimated at 450,000 sq. m.

Persia was anciently known at different times under the names of Iran, Elamor, Susiana, Media, and Parthia. It was originally inhabited by several independent tribes. Persia early occupied a conspicuous part among the neighboring nations. Cyrus the Great was the most powerful monarch who ruled Persia. He extended his dominion over the whole of Western Asia about the year 560 B. C. His son Cambyses succeeded him, who conquered the Egyptians. The empire began to decline about the time of Xerxes, the fourth king from Cambyses, about the year 480 B. C., and was complete after its overthrow by Alexander the Great. In the early part of the third century, it again rose in power under Artaxerxes, who founded the Sassanian dynasty, which reigned over 400 years. They extended their rule over Syria, Mesopotamia and Armenia. Chosroes was the greatest prince of this dynasty; under him Persia was raised to a higher degree of power than it has since attained. Soon after his death the Mohammedans overran not only Persia, but a great part of Central and Western Asia; they extirpated the ancient Persian religion and substituted their own. At the termination of the Sassanian dynasty, it was for a long time ruled by successive adventurers. In A. D. 1055, Togrol Bey founded the Seljookian dynasty. About 200 years later, it again became the seat of civil commotions; it was in succession ruled by the followers of Hassan, Timour Tamerlane, Mahmoud,

Nadir Koole; the latter established the dynasty which still holds the throne of Persia. Since 1799 England and Persia have been in friendly alliance. Since 1800 Persia has lost much of her territory on the Caspian Sea in her two wars with Russia. At present there is difficulty between the governments of England and Persia, which may terminate in the loss of a part of her territory.

The *Population* was estimated by Balbi to be about 11,299,500 (exclusive of 28 Turkish tribes), of which the Modern Persians (comprising a mixture of Ancient Persians, Tartars, Arabs and Georgians) are 10,000,000.

Agriculture is very profitable in the valleys and low lands, and the soil is found to be productive wherever water can be obtained for irrigation.

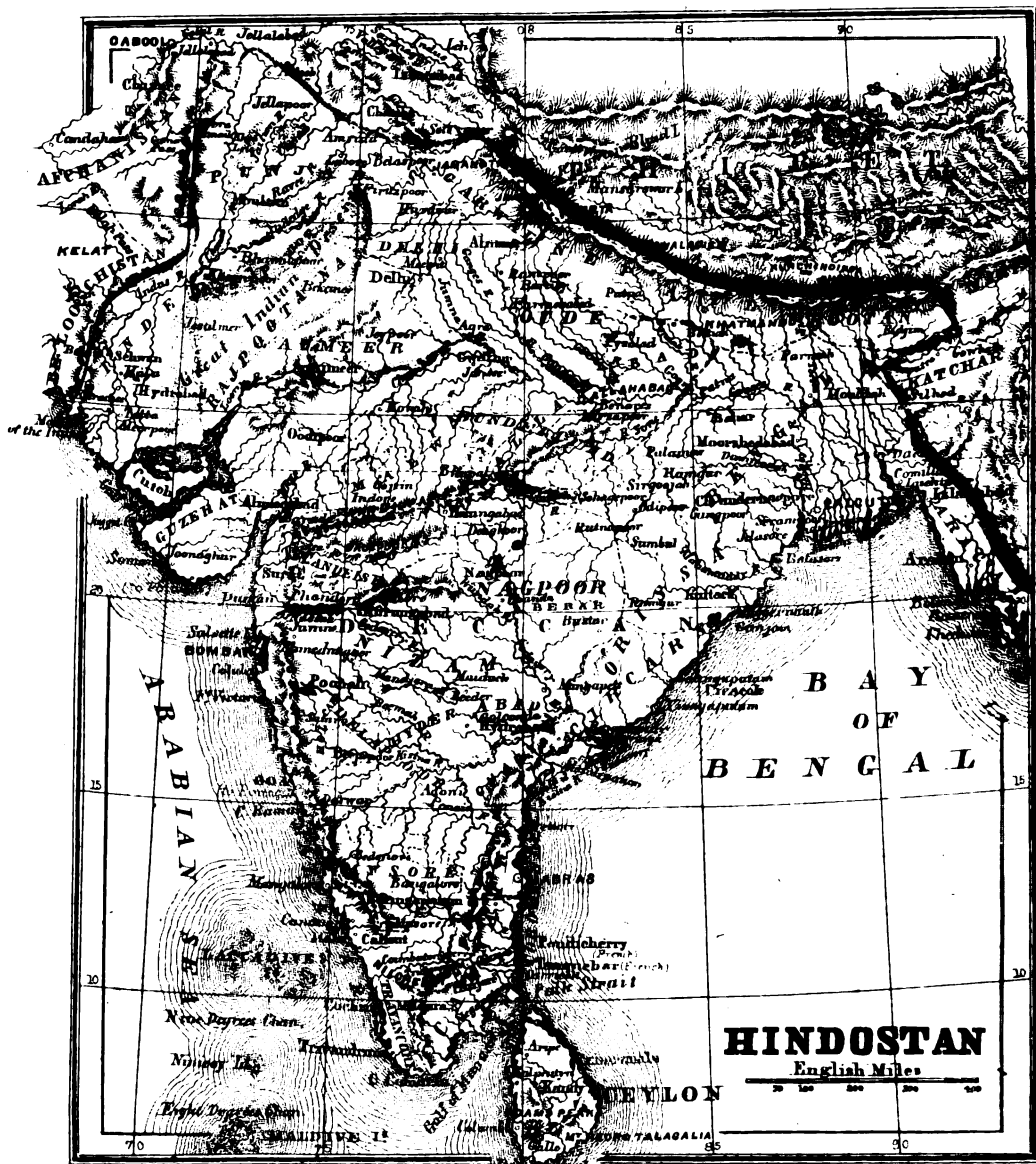
Of its *Manufactures*, Persia exports a variety of silk goods, shawls, fire-arms, swords and cutlery.

Its *Minerals* are turquois, iron, lead, copper, and fine marble.

The *Government* is according to the edicts of the Shah, who has at his disposal the property and lives of his subjects. Of his two chief ministers, the Grand Vizier manages foreign affairs and commands the army in the absence of the Shah, and the Ameer attends to domestic affairs and collects the revenue.

The greater part of the surface is a great central plateau, which is elevated from 2,500 to 3,500 ft. above the sea, and is encircled on all sides, except the E., by continuous ranges of mountains. At the N. W. corner is the celebrated Mt. Ararat, which is 17,323 ft. high (the highest summit of W. Asia). The district bordering the Caspian is fertile and noted for its beauty. Excepting the extreme N. districts of Khorassan, the entire E. portion consists of a mountainous and sandy waste, including the Great Salt Desert and Desert of Kerman.





INDIA.

THE portion of Asia (named by the ancients, and followed by the moderns) known as India, is situated between the 8th and 34th degree of N. lat. and the 68th and 92d° E. lon. In round numbers it is about 1900 m. in length from N. to S., and from W. to E. about 1500 in breadth. Its boundaries are N. by the Himalaya mountains, W. by the Indies, E. by the Highlands, east of the Brahmapootra river, and S. by the Indian Ocean. It is divided by a mountain range known as the Vindya mountains, into two parts—the north known as Hindostan, and the south as the Deccan; the former is oblong, the latter triangular in its figures. The name India is derived from the Sanscrit, and signifies river; it comprises several regions. From the mouth of the Indus to the Sutlej river is a vast sandy desert, on which are many oases. The south-eastern part is very fertile, as also the banks of the river, which overflows annually like the Nile: and is thickly settled on the south as the peninsulas of Cutch and Guler; on the north is the fertile region named the Punjab. Eastward of the Aravalle range, the country rises into an elevated plain, about 2000 ft. above the level of the sea. The S. E. is very hilly, while to the N. E. it slopes into the basin of the Ganges. Such is the general appearance of India, which contains the loftiest mountains, several of the largest rivers, the most fertile and barren spots on the surface of the earth, and embraces within its boundaries one million two hundred and eighty thousand square miles. The rivers of Hindostan have their sources on the Himalaya and Vindya mountains; from the Himalaya descend the Indus and its five tributaries; on the Jelum, the Chenab,

the Ravi, the Beyah and the Sutlej, and the Jumnah, the Ganges, the Cusi, and the Brahmapootra, and their tributaries. On the W. coast are the mouths of the Nerbuddah and the Tapti, the only streams worth mentioning on the E. coast are found on the Mahanuddy, the Godaver, the Kistna, the Polar, the Pannar, and Cavery, and others of small dimensions. From the Vindya mountains spring the Chumbal, the Betwah, and the Sou, all of which are received in the Ganges or Jumnah. The rivers of the Deccan are inferior in magnitude to the above mentioned. Their sources are chiefly in the W. Ghauts or the Himalaya range. The mountains are the Himalaya, the Vindya, and the W. Ghauts. The Himalaya are the highest mountains in the world, the greater portion has not yet been explored, and from the great height, difficulty of access, and extreme cold, it is not probable that man will ever attempt to scale its summit, notwithstanding, the Hindoo, places it as the seat of heaven. Before closing this portion, we may without impropriety, draw the readers attention to the fact, that the tides are only felt seventy-five miles from the sea; the rise is about 9 ft. at full moon, but they flow and ebb with great velocity. The Ganges is looked on by the natives with the most superstitious reverence, believing that dying on its banks is a passport to heaven, and casting a corpse on its bosom will wash away the sins committed in the flesh. For five hundred miles from its mouth it is 30 ft. deep, and never becomes shallow, till its mouth is choked by sand-bars. At its annual overflow for a hundred miles in extent, nothing is perceived but those objects that have some con-

siderable elevation on all sides. Two hundred miles from the ocean the Ganges separates in two parts, flowing from E. to S E., and retains its name; but the W. branch is joined by another stream, and is called the Hooghly, on which Calcutta, the capital of the British possessions in India, is situated. Between these two branches the land is intersected by small channels, and is known by the name of Sunderbunds, which is the resort of tigers, serpents, and all kind of wild and venomous animals. It extends about two hundred miles, and is very unhealthy. In July the monsoon rains deluge the country. The river rises 32 ft. above the level, and continues to fall till April, when it is at its lowest point; during the rainy season, the air is more sultry, oppressive and overpowering than the heat in the dry season. Dense clouds obscure the sun, (whose rays seldom penetrate them during its continuance,) which dissolve in a deluge of water. Yet these alone are a blessing to India; its discontinuance would convert it into an African Sahara. Though India is chiefly situated in the torrid zone, it possesses the two extremes of heat and cold. In the Arcare, rains continue for eight months, while in other parts the heat is intense. Bengal is subject to extreme vicissitudes, and is a very unhealthy country. Bombay, which was formerly looked on as the European's grave, is by drainage, tillage, &c., made comparatively healthy. The coast of Coromandel is extremely hot, but the heat is not felt in that oppressive degree as it exists in Malabar, where thick forests through whose trees the sun's rays never penetrate; narrow defiles and noisome swamps constantly generating miasma, make even traveling dangerous in a high degree; while the high lands between the Ganges and the Punjab, though watered with a thousand

streams, have a salubrious atmosphere. Between the Indus and Guserat is a vast space of sterile, sandy country, only surpassed by the deserts of Arabia; in some portions resinous and other shrubs abound; but the principal features are low, sandy hills, and when the hot winds arise from the south, such clouds are raised, that the sun is with difficulty seen, breathing is difficult, houses and plantations are overwhelmed, and the cultivated garden becomes a desert.

The wastes and mountains that traverse the peninsula are not cultivated; but the bottoms are covered with woods, meadows, rice-fields, and pasture-lands. Among the trees, we may enumerate the teak, prized by ship-builders; the banian; all the classes of palms and acacia; cotton wood; sandal, ebony, mulberry, and bamboos, the latter growing to the most prodigious size, and invaluable to the natives for the variety of uses to which it can be applied. Among the alimentary plants, rice is most conspicuous, (a common error exists that this is the principal food, which is by no means the truth, though there are twenty-seven varieties,) wheat, barley, maize, peas, beans, lentils, and the igname; the last weighs several pounds, and supplies the place of potatoes; cucumbers, the brinjal potatoes, sweet and common onions, etc. Among spices, we find ginger, pepper, and cardamans. Sugar-canes, indigeneous pine-apples, and melons, of the most delicious flavor, are common in the provinces. Mangoes, pomegranates, oranges and grapes are very large; also apples, Papanfigs, pillaw, elephant-apples, gourds, plantains, etc. It also raises numerous other plants, as cotton, flax, hemp, opium, sesamum, jalap, sarsaparilla, madder, cassia, tobacco, indigo, etc. Among the floral productions, the rose claims preëminence, which is largely cultivated for the sake of its

essence, called attar. In spring and summer, in the neighborhood of Cashmere, Lucknow, and Ghasepoor, the air is filled with its odoriferous fragrance. The koonya, a species of white rose, perfumes the vales of Delhi and Serinagur. The nusreen, with its delicate form, whose leaves are white on the outside and yellow within, whose aroma is of the most delicious fragrance, adorns the fertile gardens of Onissa. The large flowering jasmine, with its delicate perfume; the atimutka, and the champaca, adored by the Hindoos for the ornament of the hair, and its exquisite essence; the ixora, with its large scarlet flower, called the burning cials or flame of the wood, ravishes the sight; and the mussanda-frondosa, called the leaf of the princess, or poor man's clock, uncloses its flowers at four in the afternoon and folds them up at four in the morning. So rich are these parterre in floral productions, that the trees appear to stand on a carpet of flowers. Nothing can be more gratifying to the senses than a sojourn in spring in the vales of India.

ORIGIN AND HISTORY OF THE HINDOOS.

The first question that arises in the mind of a historian of a country is, who were the original inhabitants, which question can scarcely ever be satisfactorily settled; and with respect to India we are left entirely in the dark, gleaning out scanty information from the Greeks and vague tradition of the Brahmins. The Hindoos constitute the great mass of the population of India: their features and persons seem to mark them out as a peculiar race. Their hair long, of a deep black, but not coarse like the Indians of America; the nose and lip resemble the European; the eyebrows full; the eye with a tinge of yellow in the white of it; the iris black, with little animation

unless highly excited; the form of the face oval, and an olive skin, from which it is inferred that they belong to the Caucasian race.

In the forests and vales of Vendyha mountains, are still to be met tribes differing essentially with the above. In the west of Bengal and Bahar they are called Còls, in the forests of the Vendyha mountains they are named Gonds, westward of that they are called Bheels, and towards Guseral, Coolies; among whom are found some of the handsomest people in Hindostan. In the southern woods of the Deccan they are named Còlarees, but the general name is Pariah, who are the detestation and horror of all genuine Hindoos. In the north we find the natives strong and muscular. To the south of Lahore they are generally delicate and weak structure, though they can undergo great fatigue. In the north their stature equals that of south and middle Europe, while in the south it diminishes, and in some parts is dwarfish; such is the general appearance of the natives of India of the present day.

Hindostan is derived from the Sanscrit, Hindoo black, and Stan place. The national tradition of the Hindoos points to the northern part of the country as the earliest seat of the race and the primeval abode of their religion and social institutions; and from the similarity of the Sanscrit with the Persian, Greek, and Latin, and the German, Lettic and Slavonic dialects, they must, at some distant period, have been a part of a large family, whence they emigrated on different occasions. Schlegel's theory is, that the common abode was the east of the Caspian Sea. The ancestors of the Persians emigrated in a south-western, the Hindoo in a south-eastern, the European in a northern-western direction. The tribe that emigrated to India must have crossed the Indus

near Attuk, the only part passable, and thence through the Punjab, which route was followed by Alexander and all the Mohammedan invaders of India. The Deccan dialect is entirely different, and hence we infer they belong to a different family—hence many look on the Deccans as the aboriginal tribe who were subdued by the superior race who came with the Persians and were by them reduced to a servile condition. The southern limit was the Vendiya mountains, but being successful in passing, they subjugated the Deccan, spread their religion, colonized Ceylon and the islands of the Indian Archipelago. Some also insist that the Hindoos colonized Africa, and gave to Egypt those institutions which made her famous, certain it is, that there is a close similarity in the customs and architecture of both nations, and what seems to confirm it, when Napoleon invaded Egypt, the English sent the Indian Sepoys to Egypt, and they unhesitatingly pronounced the temples as the work of their ancestors: leaving these theories for the scrutiny of the antiquarian, we proceed to investigate the institution of castes. This question has alike been argued and theorised by the antiquarian and philosopher, and we must confess with the same unsatisfactory results; this much we know, distinction of rank and separation of profession have been established from time immemorial, and is a fundamental part of the institution. The Hindoos are divided into four castes, which represent religion, government, trade and husbandry. The first or highest rank is the Brahmin, the instructors and expounders of religion; the second was the Sahayas or military caste; the royal dignity belonged to them. Third, the Vaisya was to trade, cultivate the land, and lend money. The Sudra was the fourth, his lot was peculiarly unfavorable, he is the hewer of wood and drawer

of water to the community. None of these can quit his own caste and join another; as he is born so he must die. No Sudra possessed of all the virtues could ever be elevated to a Brahmin, nor a Brahmin degraded by vice be a Sudra, the line of separation is so strong that even tradesmen will not change their trade for any other.

It has been asserted by some eminent Buddhist writers that the sects might not intermarry, but we are unable to find these assertions sustained. The fruits of our researches were, that men of the first three classes might marry beneath them, but this was not permitted to women. If a Brahmin woman married a Sudra, their child was a chandala, *i. e.*, lowest of the low; and if he united himself to a Brahmin woman the progeny is more foul than the sire. The name by which the three higher castes are distinguished is that of twice-born. A Brahmin in his fifteenth, Sahaytraya in his twenty-second, a Vaisya in his twenty-fourth year, was girt with a band or thread, the first of cotton, the second of cusa grass, the last of wool, which went over the left shoulder and across the breast—this is called the second birth. The Sudra was not admitted to this honor, hence he was only once born. Such is the institutes of Mena; but it is needless to add that such tyranny could not be enforced; consequently, we find among the races of kings who reigned in Delhi a dynasty of Sudra kings. The Brahmins pretend the Sahaytraya were nearly extinct at the time of the Mahommedan invasion, and the Rajpoots are merely a superior class of Sudras. But we have also found a Brahmin driven by poverty and hunger to cook the victuals of a Sudra, and to have been employed for a long period as butler, keeper of the wardrobe, physician, astrologer, etc.; and many Brahmins are soldiers in the East India

Company's service. This shows conclusively that notwithstanding the docile submission of the Hindoos, it is found impossible for religion to fetter man unless it is founded on justice and benevolence. Religious and political institutions are the first to attract the enquiring mind. The Hindoo religion might have emanated from a pure source, but polytheism has crept in, and so corrupted the stream that it is now one of the most degrading and intricate systems that can be conceived. The Hindoos claim their writings are the most ancient in the world. That they were well versed in the sciences at a very early period cannot be denied. The four Vidas treat of the different branches of knowledge—hymns, prayers, and theological arguments. The latest date assigned them is the 14th century B. C. They teach a pure monotheism, joined to the worship of beings superior to man, presiding over stars, elements, and planets.

The great principle they teach, "every thing is derived from a first great cause." The next authority is the Code of Manu whose data is about the ninth century B. C. In this, there is an account of Creation. The Supreme Being produced a mundane egg whence all things, the deities included, arose mediately or immediately. Inferior deities are Indra, air; Agne, fire; Varuna, water; Pretheve, earth; Surya, sun; Chandra, moon, and several gods of the planets. Dharma, justice; and numerous other personifications. We have mentioned some portion of the Institutes. It contains the duties of the four castes, the laws of government, the revenue, and ecclesiastical and political economy generally; the two epic poems, Ramayana and Mahabarat, and the Puranas. It contains the theogony of the Hindoos, and was known in the 6th century B. C. The Deity is

here resolved into the Trinity of creation, preservation, and destruction—named Vishnu, Brahma, and Siva; to each is joined a female principle to denote his active power. They are named Seraswati, Lakshme, and Parvata. Besides these deities, we have numerous others who have their wives and attendants, and the whole number is said to exceed 300,000,000. Each of the great deities had a heaven of his own; those of Siva and Indra are luxuriantly described in the Hindoo epic poems.

Railroads.—The first railroad was opened April 16, 1853, between Bombay and Fannah, 24 m. The East India R. R. is intended to be 1,350 m. long, connecting Calcutta with the Sutlej country; of this, 66 m. were opened in Feb., 1855, and 700 m. are under contract to be opened in 1856.

Telegraph lines connect Calcutta, Madras, and Bombay.

CALCUTTA is situated on the Hoogly river, about 100 m. from the sea, and can be reached by vessels of 1,400 tons burden. Near it is the great "Fort William," which cost \$10,000,000, mounts 619 guns, and will accommodate 15,000 soldiers.

MADRAS, on the Coromandel coast, is built on a level plain, well protected by Fort George, which also commands the roadstead.

BOMBAY, in lat 18° 56' N., and long. 72° 53' E., is situated on Bombay island, and it has excellent docks for the largest vessels. It contains numerous mosques and Hindoo temples.

CEYLON, belonging to Great Britain, is 27 m. long, and 140 m. wide; area 24,664 sq. m.; population of 1,500,000. Colombo, its capital, is a handsome town with a population of 60,000.

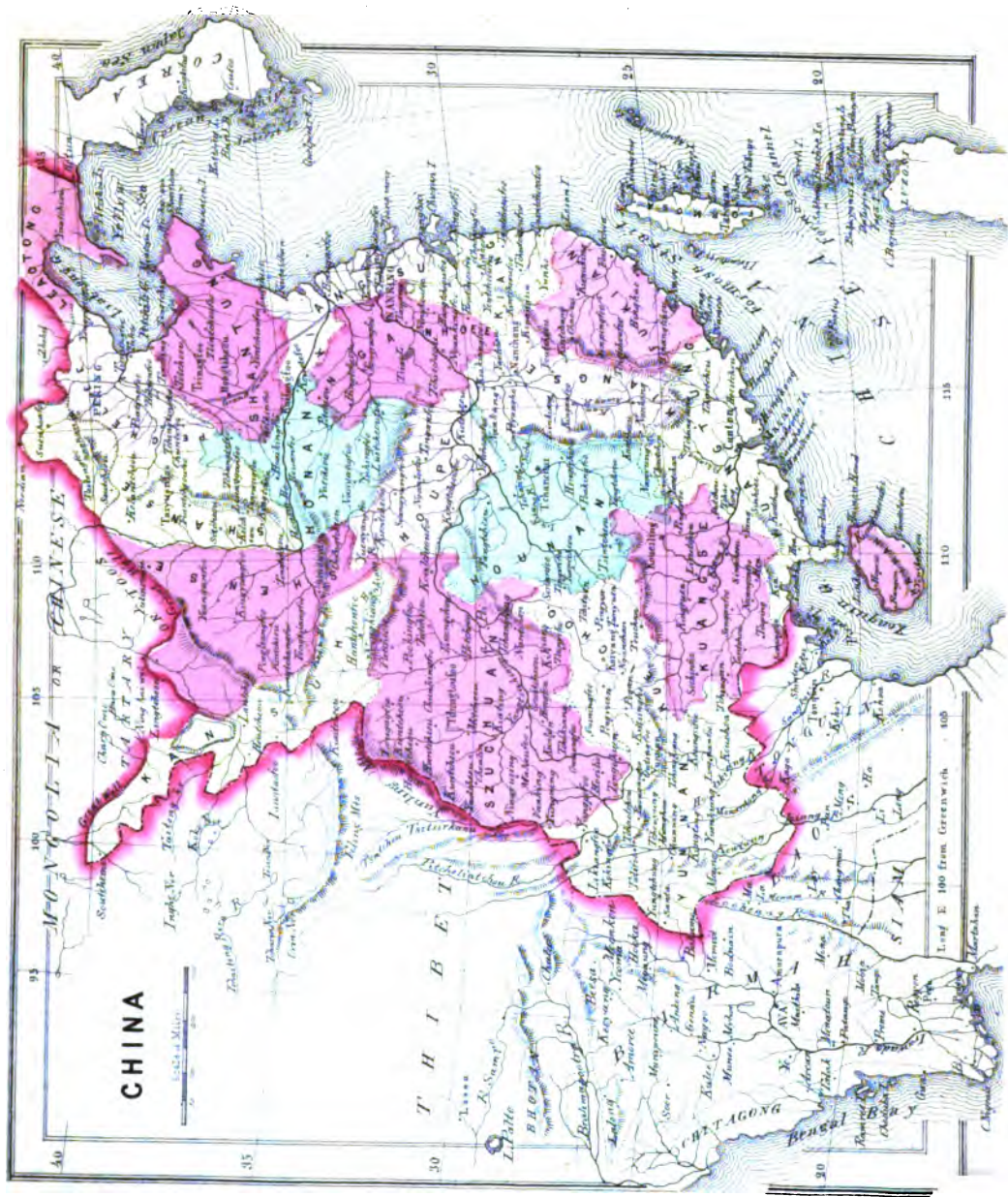
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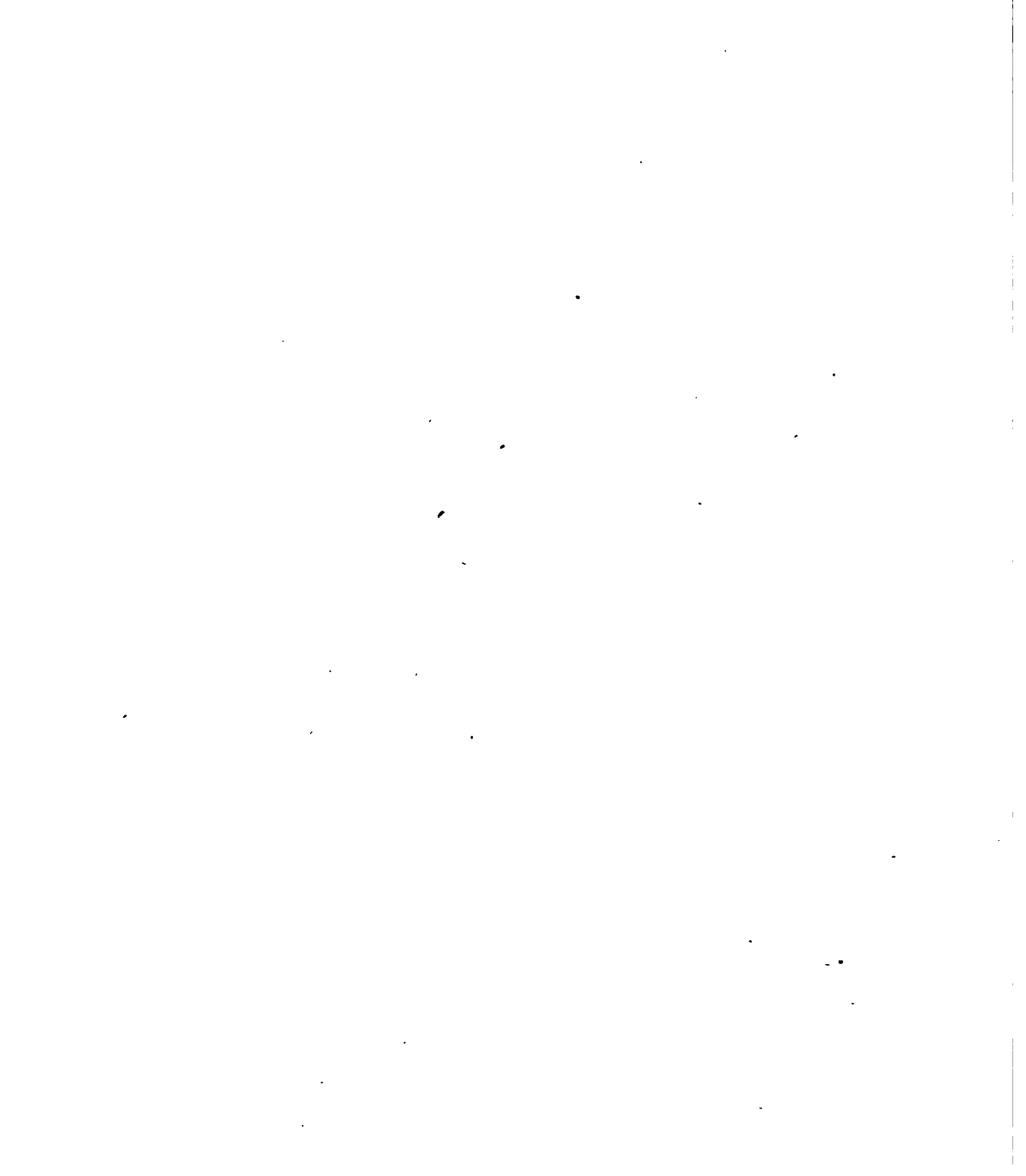
CHINA, called by the inhabitants, Tehong Kone, or the Middle Kingdom, from an idea that it is the centre or heart of the universe, around which all other nations of the world lie scattered like minor provinces, is an immense country of Asia, extending from the 18th to the 41st parallel of N. latitude, and from the 98th to the 123d degree of E. longitude. The length has been estimated at 2000 miles, and the breadth at 1500 : and according to M. Gutzlaff, it contains an area of 1,298,000 sq. m. It is conterminous with Asiatic Russia on the N. W., bounded on the S. and E. by the Pacific Ocean (that part of it being commonly called the Chinese Sea); on the W. by huge mountains and sterile deserts, separating it from the great body of Asia; and on the N. by the regions of Tartary, from which it is separated by the stupendous structure, known as the Chinese Wall, 1500 m. in length. The Tartars call China Catay and Nicancarou; the Japanese, Thau; and the natives of Siam and Cochin-China, Cin, (pronounced Chin or Tsin). From the latter countries lying nearest (nautically) to the Hindostan dominion, it is conjectured that the last-named appellation first give rise to the European name of China. The country is divided into 18 provinces : Chil-Chih-le, Shan-tung, Shan-se, and Ho-man on the N.; Keang-soo, Gan-hwny, Che-keang, and Fuh-keen on the E.; Shen-se, Han-suh, and Sze-chuen on the W.; Kwang-tung; Kwang-se, Yunnan, and Kwei-chow on the S.; Hoo-pih, Hoo-nan, and Kéang-se in the centre. These are again subdivided into portions corresponding to our countries, states, and districts.

Surface, &c.—From its immense extent, it may

be easily imagined that China presents almost every variety of scenery. It is intersected by 3 large rivers, one of which the Yang-tse-keang, is described as perhaps the largest in the world, and is connected with all the others by canals. There are also many other streams, and several large lakes in the interior, but nothing is known as to their actual extent. In the long line of internal navigation, says Mr. Barrow, between the capital, (Pekin) and Canton, of 1200 miles, but with one short interruption, the traveler will observe every variety of surface, but disposed, in a very remarkable manner, in great masses. For many days he will see nothing but one universal extended plain, without the smallest variety; again, for as many days, he will be hemmed in between precipitous mountains of the same naked character, and as unvaried in their appearance as the plains; and lastly, 10 or 12 days sail among lakes, swamps, and morasses, will complete the catalogue of monotonous uniformity. There is a constant succession of large villages, towns, and cities, with high walls, lofty gates, and more lofty pagodas; large navigable rivers, communicating by artificial canals, both crowded with barges for passengers, and barks for burden, as different from each other in every river and canal, as they are all different from anything of the kind in the rest of the world.

Climate.—The climate embraces almost every degree of the thermometer. In Canton it ranges from 80° to 90° during the summer, but the winter months are so cool that many of the inhabitants use fires. The temperature may be generally described as rather warm than cold, but it is much affected by the direction of the winds, which may





be literally said to "box the compass," with uniform regularity, during the various seasons of the year. The blow from the N. and N. E. in October, November, December, January, February and March, during which months the weather is rather cold; in April and May, from E. and S., when it is milder, but still cool; in June and July, from the S. and S. W., when it is hot; and in August and September from the W., when the temperature is oppressively sultry and hot. Speaking summarily, the coldest months are November, December, and January; the warmest, July, August, and September. Canton, although situated in the same parallel of latitude as Calcutta, is so much cooler, during the winter months, that fires are generally used. Ice has been frequently found at Canton, of the thickness of a dollar, but snow is rarely or never seen. The air is generally dry during the N., moist during the S., and clear during the W. winds. The N. winds are the most violent, and the S. the most feeble. In the months of July, August, and September, the hurricanes called by the inhabitants *Tay-fun*, usually occur, which, though extremely violent, and coming in sudden gusts, seldom occasion much disaster, owing to the inhabitants being prepared for them. The climate of China is, on the whole, highly salubrious, and many of the complaints common to the whole of Europe are there unknown.

History, etc.—Repudiating the fabulous statements upon which their historians claim an antediluvial existence for the empire, it is claimed by some that instead of having existed as a great and united nation from a period of 3000 years before Christ, China was not formed into one State until between 200 and 300 years, B. C. Since the establishment of the Mogul dynasty the empire has not been again divided, but has experienced

two great revolutions at the accession of the Chinese dynasty of Ming, and the re-accession of the Mantchoo Tartar dynasty (Tsing), in 1644; and has scarce, in any reign, been free from revolts, wars, and domestic seditions. Instead, therefore, of having a right to be regarded as a privileged country, governed from time immemorial by the same constitution, exempt from foreign conquests and intestine commotions, the only peculiarity it possesses, distinct from the other empires which have been swept from the earth, is that it has preserved its usages and manners in a great measure unaltered amid the many internal revolutions it has undergone. This country has been for several years in a state of civil commotion, caused by a rebellion of the *Chinese*, against the reigning Tartar dynasty. In 1841, the British, on being refused redress for injuries, partly alleged and partly real, proceeded to hostilities; and, having defeated every force opposed to them, were preparing to lay siege to Nanking, when the Chinese found it necessary to sue for peace. In consequence of it, China has virtually been thrown open to the intercourse of other nations.

Government.—The government of China is not so much what is usually understood by an "absolute monarchy," as a specimen of what we learn from history to have been the social arrangement of a patriarchal family. The emperor, like the "head of a house" in those times, is perfectly unlimited in his power over his subjects. He can dispose of their lives at pleasure, and can make or abrogate whatever law he chooses. All offices and emoluments emanate from him alone—in short, he is the source of all power, honor, and mercy in the State. He can even appoint his successor to the throne, either from his own family, or from whatever class of subjects he pleases. This irreposi-

ble autocrat bears two distinct characters—first, that of high priest; and secondly that of the sovereign of the empire, or “father and mother of the people.” What may be called the administrative government consists of the emperor’s council and the great public tribunals. The council is composed of the Ministers of State, taken from the first order of mandarins, and presidents of the supreme tribunals, but is never assembled, except upon occasions of extreme public importance, everything being, in general, directed by an inner council, when the emperor sits in presence. There are six superior tribunals at Peking. The first, named Luf-poo, watches over the training of mandarins, or persons to fill official situations, as well as over their conduct after being appointed to office: reports their proceedings and character to the emperor, and in short, has them entirely under its surveillance. The second tribunal, called Ho-poo, may be designated the court of finance, where all the revenues of the empire, the royal treasures and domains, and every branch of public expenditure are managed. The third tribunal, Lee-poo, or the court of ceremonies, superintends the observance of ancient customs and religious ceremonies; examines the public schools, and reports the progress of the sciences; receives foreign embassies (a great tax on their time!); and regulates all matter of etiquette about the court. The fourth tribunal, Ping-poo, is something akin to our war-office, in having the management of all the military concerns of the empire. Fifth, Hong-poo is the police-department, directing everything relating to the detection and punishment of crime. The sixth tribunal, Kong-poo, is the tribunal of public-works, having charge of the palaces, public-buildings, canals, mines, manufactories, &c. All these tribunals have a great number of subordinate

tribunals, scattered throughout the empire. Each of the six supreme tribunals has two presidents, one of whom must be a Tartar by birth, and the other a Chinese. They have also twenty-four assessors, twelve of whom are Chinese, and twelve Tartars. The great basis of the Chinese government is the strict inculcation of the sacred nature of filial obedience, into the heart of the young.—The parent is understood to possess unlimited power over his offspring as long as they live—a maxim which has been for ages interwoven with their earliest ideas and feelings. The child stands in the same relation to the father as the father to the sovereign. This same principle pervades all branches of authority—the governor of a province or city being held as the father of all under his jurisdiction.

Laws.—The laws of this singular nation may be described as those of the bamboo, the cord, and the scimitar. They are embraced in a code called the Leu-lee, which has generally undergone some modifications under each new dynasty, but has continued fundamentally the same from time immemorial. It is one of the duties of the mandarins to instruct the people in the provisions of these laws, and they are likewise promulgated in all the schools and public seminaries. Treason, parricide, impiety, and desertion to a foreign power, is invariably punished with death—in the former case with the most lingering tortures.—The penalty of death is also awarded against a slave who shall strike his master, a son who shall strike his father or mother; a grandson who shall strike his grandfather or grandmother; a wife who shall strike her husband’s father, mother, grandfather, or grandmother. But if a father kill a son, grandson, or slave, the punishment is no more than sixty blows of the bamboo, and a

year's imprisonment. Even this lenient punishment is generally remitted for a fine, as the law presumes the cause of the act to be the disobedience of the child, which is held as a crime of the deepest dye, as affecting the principle of the whole system of government.

Revenues.—No correct estimate, for the want of the necessary data, has ever been ascertained, of the actual amount of the revenues, and the most different statements have been put forth on the subject by various writers and travelers. The Chinese, themselves, of course, attempt to impress foreigners with the most exaggerated idea of its magnitude. A Chinese minister represented it to Lord Macartney as amounting to a sum exceeding sixty millions sterling, of which, after defraying all the civil and military expenses, about twelve millions were supposed to remain for the emperor's private support. Mr. Barrow reckons that fifty millions, in an economical government like this, where the officers and magistrates are so shamefully paid that they could not live without robbing the people, may be considered as an ample revenue for all the necessities of the State. This revenue is raised from a land-tax amounting to about a tenth of its produce, one-half of which is paid in money, and the other half in kind. There is, besides this, a tax on salt, coals, and manufactures; and a capitation-tax upon merchants, artisans, etc., who are held lowest in the scale of society. It is a curious fact that the regulations for collecting the duties on manufactures, and preventing smuggling, resemble, exactly, the British system of permits, excise-officers, licenses, etc.

Classes of Population—Occupations.—The population of China, under the emperor himself, and his family, may be divided into eight distinct classes; and one of the most striking circumstances

in the social system is the want of that which has almost universally reckoned indispensable to the stability of a monarchy—a nobility. With the exception of princes of the blood, whose persons are in some degree held sacred, there is no rank but what is derived from the holding of some office in the State. The great body of the people may be divided into the following classes: The mandarins; the military; the literati; the bonzes (or priests); the husbandmen, who are the most favored class in the State; the artisans; the laborers; and the merchants, who are the least respected, especially those who traffic with foreign nations. It is one of the most curious features of this singular government, that being so essentially despotic itself, both in principal and practice, it possesses one feature generally reckoned the main principle of a democracy—namely, that the highest offices and honors in the State are alike open to all classes of the people. The mandarins consist of two classes, the civil and the military. The former, however, are the chief officers who govern the empire, although they are placed under restrictions as to prevent their ever becoming dangerous to the emperor. These two are divided into nine different orders, who are minutely distinguished by particular parts of their dress. The most marked, however, is the button on the bonnet, which, among those of the first order, consists of a red ruby; others, of a meaner order, have a rock crystal, and the most inferior one of gold. The number of civil and military mandarins is calculated at between 20,000 and 30,000.

The *literati* form the most distinguished part of the Chinese nation, as it is from among these that the individuals necessary for discharging all the higher duties in the State are recruited. There are upwards of 24,700 individuals annually added

to the qualified *literati*, and it is conjectured that there are never less than 495,000 of this body.—These are all exempt from taxes of every description, and as soon as they have taken out their degrees, their names are enrolled in the lists of the *Lu-poo*, who choose from among them the higher order of mandarins.

It is, however, in productive labor, that perhaps two-thirds of the Chinese are employed, the remaining third amounting, after deducting the civil and military officers, students, *literati*, etc., to about ten millions, being engaged in trading and manufactures.

Population.—According to Thom, the population is 181,788,163 which he divides into the following religious sects :

Followers of Confucius, Laou-tze, and Taou.....	159,220,163
Worshippers of Lama.....	18,000,000
Mohammedans.....	1,600,000
Roman Catholics.....	88,000
Jews.....	60,000
Buddhists and others.....	2,830,000
Total.....	181,788,163

This table, is perhaps, as near an approximation to the truth as can be made, although the calculation is thought by some to be too high for the extent of cultivated ground.

Productions—Agriculture—Tea Crop.—The staple productions of China are, rice, tea, cotton, silk, sugar, salt, porcelain, tin, lead, musk, rhubarb, quicksilver, saltpetre, wines, fruits, and various manufactures. Rice is the great staple article of food, and so much is its importance regarded that a high festival is held at the commencement of each seed-time. The emperor performs in person, and prepares himself for the solemn occasion by three day's fasting and prayer. He then goes forth in great pomp, takes the plow in his own hands, opens a furrow, and throws in the first seed of the season. The same is done in every part of the

empire on the same day, by the viceroys and governors. The grain reaped from the seed is preserved in granaries, and reserved for sacrifices. The cultivation of this grain, of which there are two crops annually, requires little or no labor ; water supplies every purpose, and for the most part, this element is abundant in every part of the empire. The growers display great ingenuity in their various contrivances for raising the water from the rivers, by means of wheels, levers, swinging-buckets, etc. The first crop is sown in March, and the second in July, the grain being ready for the sickle three months after it is sown. Exclusive of rice, there is a great deal of barley grown in some districts, besides wheat, maize, peas and beans. Oats, which spring up spontaneously, are pulled up as a useless weed. The implements of husbandry are extremely simple.

Landed property is considered the absolute right of the emperor, the lands being held by a sub-proprietor, or first-holder, who is allowed to keep possession so long as he continues to pay a tenth of what his farm is supposed to be capable of yielding. If one person holds more land than his family can conveniently cultivate, he lets it to another, on condition of receiving half the produce, from which he pays the emperor's tax.—There are no extensive estates or farms in the country. The whole ingenuity of the inhabitants seems to be exercised on the cultivation of small spots, rather than in cultivating large tracts.

The Tcha, Tha, or tea-tree, grows equally in the mountainous and level districts, but prefers a light and rocky soil. It is sown by putting seven or eight seeds into a hole, two or three of which only spring up, and these are afterwards transplanted into rows. They begin to yield leaves three years after being planted, but requires to be renewed

every five or six years, as the leaves then begin to grow hard and harsh. The appearance of the tea-shrub resembles that of the broad-leaved myrtle, with a flower like that of the wild white rose.—There are different modes of cultivating in different provinces; but there are only two distinct species of the crop, the green and the black. All the rest are mere combinations of these two, in different proportions, or are simple varieties produced by difference of soil or culture, gathering or curing. The black tea is grown in the maritime provinces of Fo-kien, with the exception of about one-third of the bohea, which is produced in the N. E. corner of Canton province, in a district called Wo-ping. Green tea is all grown in the maritime provinces of Kiaguan, Kiang-si, and Che-Kiang, but chiefly in the two former. Some of the buds of the plant in Fo-kien are picked in the early part of the spring, before they have burst, and a small portion of these is mixed with the best parcels of Congon to give them a flavor. Pekoe is also brought to Canton, unmixed with other leaves. In the beginning of April the leaves are stripped off the plant; a new crop is then thrown out and picked about six weeks afterwards, and a third crop about the end of May; the two first pickings are the best, and nearly equal in quality. The third crop yields tea of little strength and inferior flavor; hence the best crops are comprised wholly of the choice leaves of the two first gatherings, with a small sprinkling of the buds, or pekoe. The tea-merchants and the agents of the Hong merchants come to the tea districts, and purchase quantities of leaves of the first, second, and third gatherings, discriminating the leaves of the young and old plants, and those grown in well-known favorable spots. They then complete the drying or roasting process, and em-

ploy women and children to select the hard, the best leaves, with more or less discrimination, according to the quality of tea it is desired to make. The green tea is less highly dried than the black, and it is supposed (from the former, thus retaining much of its natural juices,) that its nervous properties (generally ascribed to its being dried in copper vessels) are to be imputed to this fact. The green tea is usually pressed into chests, while hot, to give it a finer flavor. The tea-chests undergo severe scrutiny in Canton, previously to being purchased; and if when finally examined, at the period of their shipment, they are found superior to the quality which has been attached to them; the price is raised, and if inferior, they are rejected, or the price is lowered. The scientific mode of proving the finer teas is to put a small quantity into a cup, pour on it pure spring water; at boiling heat, place the saucer above the cup, filling it also with boiling water, to increase the heat; after a sufficient time has elapsed for the leaves to unfold themselves, the appearance, flavor, and particularly the color of the infusion is closely examined. Tea is the universal beverage of China. It is drunk at all meals, and is almost the only liquor used at feasts, and while visiting each other. But it is a general rule among them never to drink tea, immediately after a long fast, it being apt to effect the nerves, and create giddiness. The tea-shrub is cultivated only in China and Japan.

The oil-bearing tea is much cultivated for its seeds, from which an oil is expressed, in very general use in the domestic economy of China. There is also cultivated a tree called a tallow-tree, from the seeds of which a substance is prepared, having all the properties of animal tallow.

Manufactures.—From the adherence of the

Chinese to ancient customs and practices, they have been left behind by almost every civilized nation in all useful mechanical arts, even those which they originated. The silks of China will not bear comparison with those of Lyons, Spitalfields, and Edinburgh; the first for light fabrics, the second for more substantial, and the last for shawls. In the article of porcelain which, until a very late period, continued to be the admiration of the world, we have been enabled, through the researches of chemists, to compound earths, matching that with which nature has furnished the Chinese, and not only equal them in the fineness and durability of the ware, but infinitely excel them in elegance of manufacture. The same remarks to all the other manufactures of China, the principle of which, besides the two above mentioned, are those of cloth, nankeen (or cotton) linen, paper, and ink. They still pertinaciously adhere to their ancient practice of fabricating their paper from the bark of the bamboo, and kootchoo, though they are aware of the superiority of that made from rags, and the infinitely greater cheapness and simplicity of the manufacture.

Arts and Sciences.—What we have said of the stationary condition of the manufactures, applies equally to the arts and sciences of China. The process of printing continues the same as when originally invented by themselves, about 1700 years since. One of the most singular features of Chinese genius is developed in their attempts at painting. They display extraordinary powers of minute imitation, and will copy, with the utmost exactness, the number of petals, thorns, spots, etc. of a flower, and the scales of a fish, but they are utterly unable to mix and soften their tints, and copy every defect, as well as excellence, in the object of their imitation. They have not the

slightest idea of perspective, considering the diminished and faded appearance of distant objects as the consequence of a defect of vision; and they therefore insist upon placing every object in the foreground. When one of their ministers of state beheld a portrait of his Britannic majesty, he remarked that it was a pity it should have been spoiled by the dirt on the face, meaning the shading of the nose. In sculpture, as in painting, they have no conception of order, attitude, or proportion; and there can be nothing more monstrously grotesque than the figures which adorn their bridges, temples and tombs. Their music remains in that state of primitive simplicity in which it has been observed to exist in all barbarous nations. Their musical instruments are extremely rude, consisting chiefly of drums, bells, triangles, etc. and the only kinds resembling those of Europe are a species of lyre or harp, with strings of silk, and a small organ, or rather Pan's pipe, made of unequal reeds. No people have carried the art of dyeing, or of extracting dyeing materials from animal, mineral, and vegetable substances, so far as the Chinese have done, and this without any chemical knowledge. Their expertness in cutting tortoise-shell, mother of pearl, stones and gems, is extraordinary, and in all the metals they work with extreme neatness.

All observers concur in attesting the defective knowledge of the Chinese in the science of Astronomy, for their proficiency in which they have hitherto enjoyed a great reputation. Their high pretensions in this department turn out to be founded as much on superstition as science. So sensible of this are their monarchs, that for generations the construction of their vaunted Imperial Almanac has been intrusted to foreigners; native astronomers fixing the lucky, and unlucky days.

INDEPENDENT TARTARY.

INDEPENDANT Tartary or Western Tukistan, is bounded N. by Siberia, on the E. by the Chinese Empire, on the S. by Persia and Afghanistan, and on the W. by the Caspian Sea, and Russia in Europe. Its boundaries are imperfectly defined, and its area cannot be very accurately determined; it has been estimated at 843,600 sq. m., with a population estimated at 5,000,000 to 10,000,000.

It is divided into many petty Mohammedan states, subject to despotic chiefs, termed Sultans, Khans, Beys, Inaks, Alaliks, and Behadours. The Khan has the power of life and death; the Sultans are relatives of the Khan; the Beys are hereditary, dependent on their power to assert their rights.

The Tartars are fond of plunder and excellent horsemen, and are capable of great endurance; they form in bands of several thousands and plunder caravans. Many of the tribes live in tents surrounded by their flocks of sheep and horses, and move from place to place. They take great pains in rearing their horses, which are remarkable for their fleetness and endurance, each able man having his own horse; large masses of horseman can be brought into action by the powerful chiefs, who are constantly at war with each other.

Large portions of the N. and W. are covered with desert plain; in the S. W. oases of exceeding fertility are often found surrounded by deserts of moving sands. In the S. there are many fertile and well watered valleys. The steppes have an undulating surface, divided by chains of hills. The absence of trees and shrubs, and the slight elevation of the ground, affords an extensive but sterile, uniform and silent view. Between the

Caspian and Aral Seas the soil is generally sandy, and fresh water is found only in the wells. These seas are connected by a chain of rocky hills, on the surface of which are innumerable marine shells. By constant irrigation the soil is rendered fertile around the towns.

Here are found the loftiest mountain peaks in the world. Among the Hindoo Koosh Mts., a range which separates Independent Tartary from Persia, and Afghanistan, some of these peaks obtain the height of from 20,000 to 29,000 ft. The other Mts. are the Belor Tag on the S. E., the Asfera Karadtag, Mussas or Gokehal Mts. running E. and W. Communication to the opposite side is made through passes which are few in number. Several lateral ranges branch out of these Mts., viz: Kara-Tagh, and Alaran, their peaks being covered with perpetual snow.

The principal rivers are Oxers and the Syr. The former rises in the Hindoo Koosh, and flows from lake Sirokol at an elevation of 15,000 ft. After a course of about 1100 m., it falls into the Aral Sea; it flows upward of 300 m. through a desert; when swollen by the melting of snow, it expands to over 4 m. in width. The Syr river was the northern limit of the marches of Alexander the Great.

The climate is subject to extremes. In the steppes the spring is short, the summer dry and hot, the autumn rainy and short, the winter long, cold and dreary. The S. part is dry and healthy.

The Aral Sea 170 m. broad is surrounded on the E. and N. W. by sand hills and plains of clay.

Its chief divisions are the kingdom of Bokhara and Kohan, both fertile and populous compared with surrounding wastes. These states with the Khant of Khiva, (an important power) are ruled by Usbeck chiefs.

AFGHANISTAN.

AFGHANISTAN is bounded on the N. by Chitral, Kafistan, and Koondooz, separated from the latter by the Hindoo Koosh Mts., on the E. by the mountainous region of Gilgit, Yessen, &c., on the S. E. by the Indus R., on the S. by Bevhalper, Scinde and Beloochistan, and on the W. by Persia; its breadth from E. to W. 660 m., from N. to S. 500 m. Its area is computed to be 225,000 sq. m. The Afghans are rude, revengeful, and rapacious; but brave, hospitable, and energetic. The established religion is Mohammedan. They are fond of learning, and have schools in every town and village. Afghanistan, like ancient Israel, is divided into tribes each under its own government. The Khan of Dooraunees is nominally their king, this being the ruling tribe; his powers are limited to the appointment of Khans over other tribes, levying troops and collecting the revenues. The internal government of the tribe is republican.

A great portion of this country consists of high, bleak hills, and the S. W. part is a desert. There are many fertile valleys, and plains, which are well cultivated; grapes, peaches, and apricots, grow wild. Pine, cedar, oak, cypress, walnut, and pistachio, are found on the mountains. In the E. part, corn and fruit is raised, and in the lower and warmer portions, sugar, ginger, cotton, dates, &c.; large quantities of asafetida, are produced. Lead, iron and salt, are abundant.

Peshawur, the former capital, is situated in a fertile plain of about 35 m. broad, surrounded by a range of the Hindoo, and Solimaun mountains.

Cabul, at present the principal city, is situated about 6000 ft. above the sea level. Much activity is displayed in its streets. Pop. about 60,000.

BLOOCHISTAN.

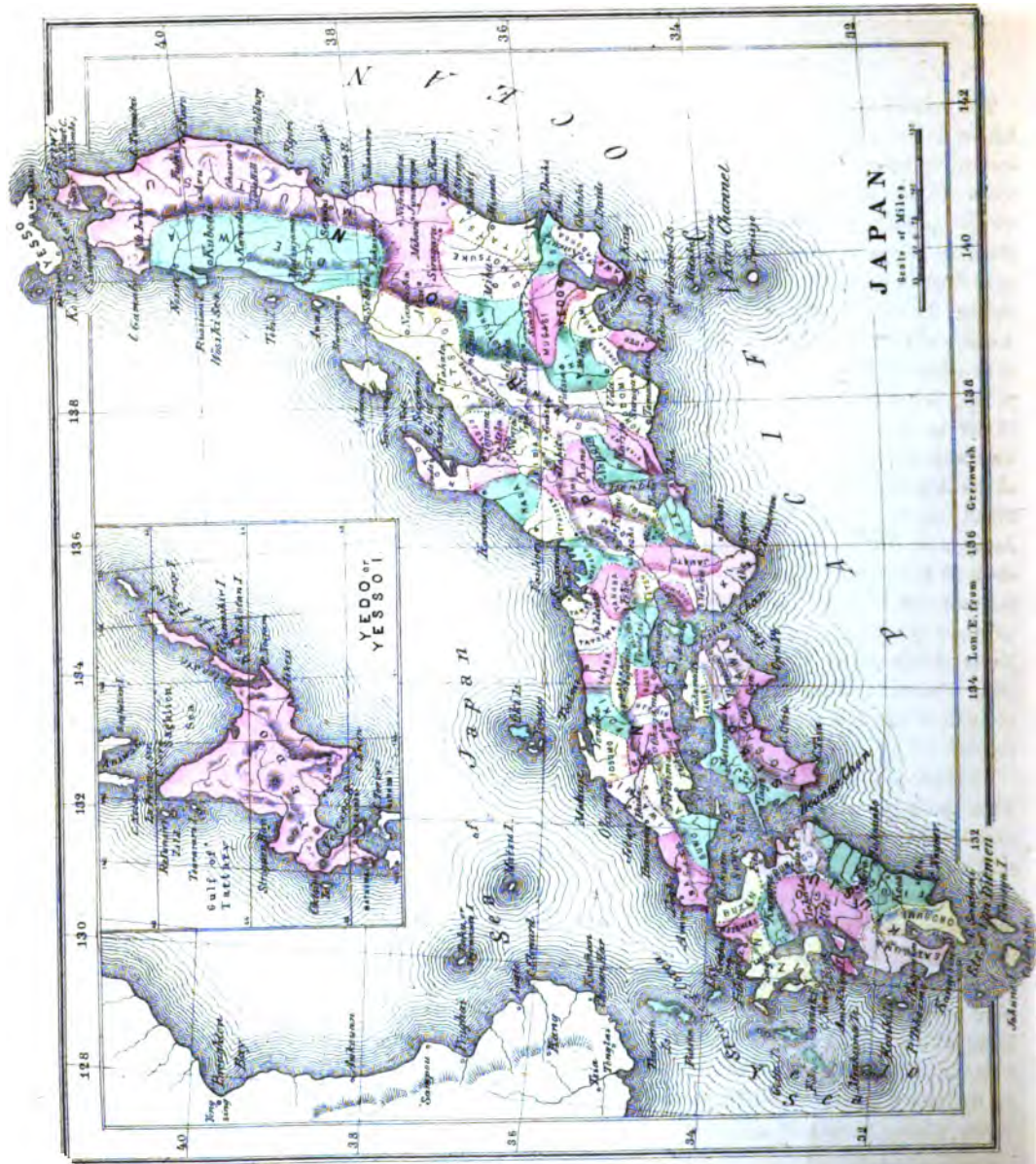
BLOOCHISTAN is bounded on the N. by Afghanistan and Persia, E. by Hindostan, and S. by the Arabian Sea. Its area is about 140,000 sq. m., with a population of about 2,000,000.

The country is inhabited by the Blooches, Brahohes, and Bejunzas. The Blooches are much like the Afghans; they are wandering in their habits, brave and hospitable; despising theft, though often forming raids into neighboring tribes and territories, plundering villages, and enslaving the people; strangers who have, or purchase a claim to their protection, they treat kindly, and secure from harm. The Brahohes are supposed to have been the original inhabitants; they are mild, quiet, inoffensive, industrious, hospitable, and pastoral in their habits. The W. part of the Melcran district is occupied by the Bejunzas, who have renounced all religious belief, and care not for "King, Khan, God, or the Prophet." They rob, or plunder every person or thing, on which they can lay their hands. The tribes are governed by their own chiefs or Serdars; the Serdar of Kelat is the nominal ruler, but his real sway extends only to his immediate district. The northern boundary is traversed by a lofty range of mountains. The west part is composed of a desert of red moving sand. The mirage, tantalizes with its false and ever receding lakes. This desert is calculated to be 400m. from N. to S., and 200m. from E. to W.

Kelat, the capital, is situated on a high table land, in a well cultivated district; owing to its elevation, 8000 ft. above the sea level, its climate in winter is severe. Its population is estimated at from 15,000 to 20,000 inhabitants.

Gundava, the winter residence of the Serdar, is well built, with a population of about 15,000.





J A P A N .

THE Empire of Japan embraces the three large Islands, Nippon, Kinsin, and Sikokf, besides, according to some, 3,850 smaller ones. They lie in the N. Pacific, between the parallels of 31° and 46° N., and the meridian 129° and 161°. Nippon, the largest, is over 900 m. in length, with an average breadth of about 90 m. Its area, including the neighboring islands of Sado, Oki, Awaj, and Fatsio or Fatsisi, has been computed to be about 110,768 sq. m. Kinsin is about 200 m. long, and about 80 wide, and has an area of 16,000 sq. m. Sikokf is 150 m. long and 70 wide, with an area of about 10,000 sq. m. With all its dependencies, it is estimated to contain 270,211 sq. m. The Loo Choo Isles lie between Japan and the Island of Formosa. They are about 35 in number. They are nominally subject to Japan, but in their local government they are independent. To the northward of Nippon, the Kurile Islands, with the Island Yesso, extend about 800 m. to the peninsula of Kamschatka. 21 of these islands are under the government of Russia.

The history of Japan is involved in obscurity. Their traditions extend backwards to a period of over 100,000 years. In some respects their physical aspect is similar to the Chinese; their language, however, is distinct. By some authors they are supposed to have been an elder branch of the same race, who, on the dispersion of mankind on the plains of Shinar, wended their way eastward to the shores of the Pacific, some of whom found their way to these islands, and here, secure from invasion, preserved their primitive character. In the latter part of the 13th century, Marco Paulo, having learned of this country while in

China, made it known to the Europeans under the name of Cipango or Zipangri. In 1542, intercourse was opened by the Portuguese, one of their ships having been wrecked in the province of Bungo. They shortly afterward obtained permission to settle Nagasaki, where they opened a lucrative trade. The Portuguese missionaries were allowed to preach, and made many converts. Large quantities of gold and silver were exported. The rivalry between the Spanish and Portuguese missionaries, each laying claim almost to the sovereignty of Japan, alarmed the government, and after many repressive edicts, and much bloodshed, the Christians were driven out between the years of 1635 and 1640. In 1600, the Dutch, after much difficulty, succeeded in obtaining the port of Nagasaki as a trading port, guarded, however, by many severe restrictions, and confined in a factory on the island of Desima, in the harbor. The English made several attempts to be allowed to trade, but through the instrumentality of the Dutch their efforts were unsuccessful. The interdict excluding all nations except the Dutch and Chinese from Japanese coasts continued till 1854, previous to which repeated efforts had been made not only by the English, but by the Russian, French, and American governments. In 1853, an American squadron, under Com. Perry, entered the harbor of Yeddo, and endeavored to open commercial negotiations with Japan. Obstacles were ingeniously raised to prevent his purpose; but by firmness and address, the Commodore succeeded in concluding a treaty, on the 31st of March, 1854, the ratifications of which were exchanged between the two governments, at Simoda, February 22, 1855.

The treaty is not one providing for commerce, but amity and partial intercourse for trade. It

provides for the opening of Simoda, on the island of Nippon, lat. $34^{\circ} 38' N.$; long $138^{\circ} 58' E.$; and Hakodadi, on the Island of Yesso, near Matamai. It stipulates to preserve a permanent peace between the two countries, to furnish supplies to American ships at the ports above named, to restore men and articles lost by shipwreck, and allow shipwrecked men and citizens of the U. S. to go where they please within certain limits. It also provides that if, at any future time, the Government of Japan shall grant to any other nation privileges and advantages not herein granted to the U. S., these same privileges and advantages shall be likewise granted to the U. S., without any consultation and delay.

Treaties similar to the foregoing have since been made with Great Britain, and Russia, and the Netherlands; and another, with France, is now (March, 1856,) reported to be in negotiation.

The *Population* is estimated at from 25,000,000 to 60,000,000. It is divided into eight classes, viz: princes, nobles, priests, soldiers, civil officers, merchants, artisans, and laborers. These are kept distinct with all the strictness of caste, each person following in the rank of his ancestors.

The Japanese are said to be brave, industrious and virtuous. Honor is considered so essential to the character of a gentleman, that, if insulted, he presents one of two swords (which he always carries) to his opponent, and then slays himself: a proceeding which his antagonist is bound to follow as a point of honor. According to Bayard Taylor, they are a very intelligent people, original, intellectual, and exceedingly inquisitive. The exclusive policy of Japan appears to be wholly on the part of the Government, and is no doubt wholly in opposition to the will of the inhabitants, whose curiosity is only repressed when overawed

by the presence of the agents of that stern despotism.

But little is known of the interior of this country; the coast is deeply indented with good harbors; Nippon is traversed for nearly its whole length by a volcanic chain of mountains, the peaks in many parts being covered with perpetual snow. The rivers flowing E. and W. from these mountains are short and rapid. The soil, though not naturally rich, yet, by patient industry, assisted by a genial climate, is every where well cultivated. In the S., sugar cane is successfully cultivated. There are two annual crops of rice, which is the chief article of food. Wheat, barley, potatoes, melons, &c., are abundant; tea, inferior, however, to the Chinese plant, is abundant. Gold, silver, amber, and copper, the finest in the world, are abundant.

The government is an absolute hereditary monarchy, shared by two sovereigns. The Celestial sovereign resides at Miako; he has the superintendence of religion and education. The Military and Civil sovereign resides at Yeddo, who administers the executive, assisted by a council of five members, and a Senate, which forms the legislative body.

The laws are severe, and even sanguinary; torture and death by decapitation, or impaling on a cross, are ordinary punishments. The police is most rigorous, every citizen being in a measure a police officer. Every town and village is parcelled into lots of five houses, the heads of each of which are bound for the good behavior of the others. No one can change his residence without a certificate of good conduct from his neighbors. The crimes against property are exceedingly few. Children are trained to habits of implicit obedience.

The public revenue is derived wholly from taxes on land and houses. The army in time of peace is rated at 100,000 infantry and 20,000 cavalry. There is no armed navy. Discipline and the art of fortification are little understood.

The established religion is that of Boodha, although an older form exists called Sinto. The priests of this sect are allowed to marry.

The chief cities are Yeddo, Miako, Osaka, and Simoda, on the Island of Nippon; and Nagasaki, Sanga, and Kokoora, on the island of Kiou-Sioo. The cities are all densely peopled, the villages are frequent, and the highways are crowded with travelers.

Yeddo (Yeddo or Jeddo), the military capital of Japan, is situated on the Gulf of Yeddo, on the S. E. coast of the island of Nippon, in lat. $35^{\circ} 40' N.$, and lon. $139^{\circ} 40' E.$ It is stated to be inclosed by a trench, and intersected by numerous branches of a river and canals navigable for vessels of moderate burden. It has a fortified palace, many noble residences, and numerous religious establishments. Its dwellings are mostly of wood, and it is subject to frequent and destructive fires. The Imperial Library is said to contain 150,000 volumes. The Dutch have a commercial mission here. The population is estimated at 1,500,000.

Miako, or Keso (Kio), the ecclesiastical capital of Japan, is situated on the Yeddogawa river. 240 m. W. S. W. of Yeddo, in lat. $35^{\circ} 3' N.$, and lon. $135^{\circ} 53' E.$ It stands on a spacious plain, inclosed by mountains, covered with gardens, interspersed with temples and monasteries. The city is stated to be 4 m. in length and 3 m. in breadth, and encircled by a fosse. It is especially celebrated for containing the residence of the ecclesiastical sovereign of the empire. Near one

of the temples is suspended a bell, reported to weigh about 1,000 tons, and thus to be the largest in the known world. Miako is the principal seat of learning, and is the chief manufacturing and commercial city in the empire. The population exceeds 500,000.

Osaka, 33 m. from Miako, has a strong citadel and an extensive trade.

Simoda, about 60 m. from Yeddo, contains about 6,000 inhabitants, and is one of the ports recently opened to the United States.

Nagasaki, on the S. W. side of the Island of Kiou-Sioo, in lat. $32^{\circ} 44' 8'' N.$, and lon. $129^{\circ} 51' 53'' E.$, contains a population of about 70,000. The harbor is about 7 m. in breadth by 1 m. in width. Report says that a new treaty has been formed between the Dutch and Japanese, by which the latter have ceded to the former the little island of Desima, whereon to form an entrepôt for the Dutch trade. Hitherto, the occupants have paid a certain annual rent to the Japanese proprietors of the island and buildings, under whose constant supervision, as well as under that of a whole host of officials, they have been obliged to live. If, by the new treaty, they have obtained entire control of the island as their own property, and freedom from more or less of the espionage, restrictions, and annoyances by which hitherto they have been hampered, this will be one step more toward the opening of the Japanese trade. McFarlane estimates the present population of Nagasaki at from 40,000 to 50,000.

Sanga, 55 m. N. E. of Nagasaki, has a fine palace, and a famous manufactory of porcelain.

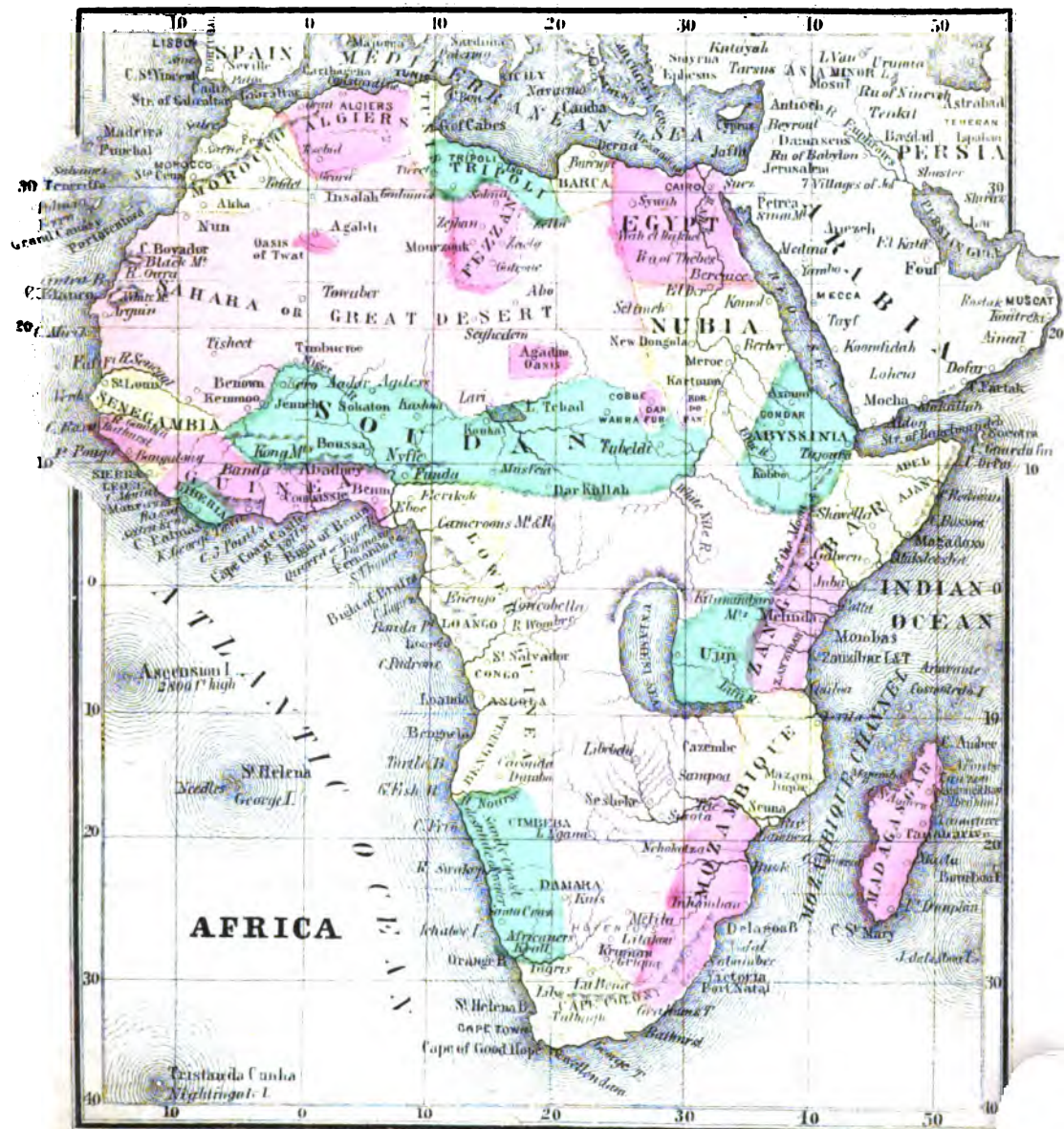
Kokoora is about 100 m. N. N. E. of Nagasaki, and has a population of about 16,000. It is a maritime town, and capital of the province of Fizen.

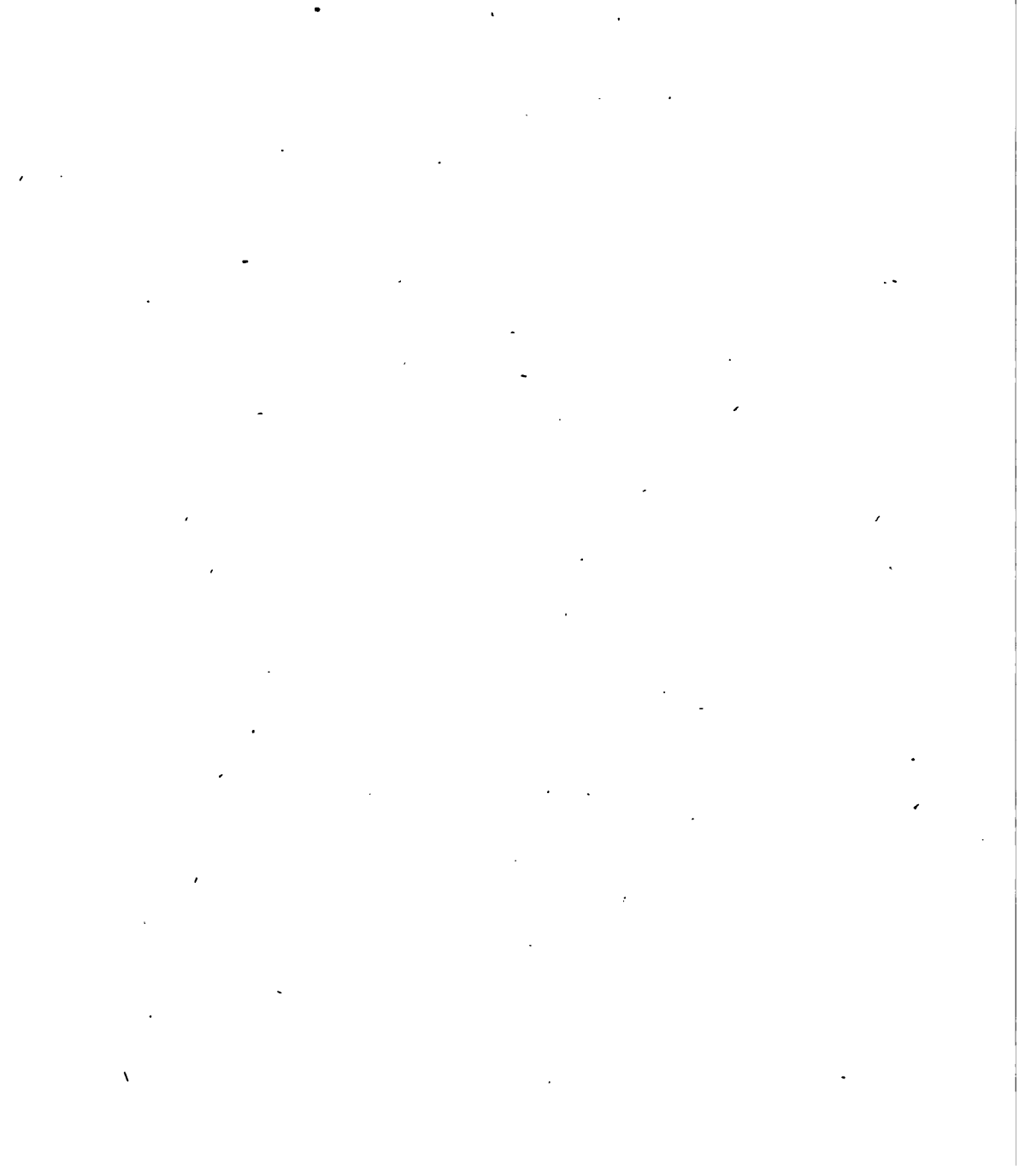
THE CONTINENT OF AFRICA.

AFRICA, by some termed a spacious continent, comprised nearly one-third of the world known to the ancients. It is bounded on the N. by the Mediterranean sea, which separates it from Europe; on the E. by the Red sea, separating it from Arabia, and by the Indian ocean; S. by the Southern ocean, and W. by the Atlantic. It is a vast peninsula, being nearly surrounded by water, and connected with Asia by the Isthmus of Suez, 60 m. wide. Its greatest length, from N. to S., is nearly 5000 m.; its greatest breadth, about 4,800 m. Its shape is triangular, the northern base being the Mediterranean coast, and tapering at its southern extremity to almost a point. Africa appears to be the least favored portion of the globe. It is characterized by its extensive deserts, which elsewhere are only partial, and occasional. These boundless plains, exposed to the vertical rays of a tropical sun, are deprived of the moisture necessary to cover them with vegetation. Storms of sand and hot pestilential winds sweep over these burning wastes, constantly threatening to overwhelm the adventurous traveler—the fertile and cultivated portions being little else than mere belts.

The Greeks and Romans were well acquainted with those portions of the country lying on the Mediterranean shores; but as they passed southward, they came in contact with the burning sands of the desert, and hence they drew the hypothesis of a torrid zone, within the limits of which it was impossible for animal life to exist. Many attempts were however made by them to penetrate and explore these unknown regions, which terminated disastrously. After the subjugation of

Egypt by Cambyzes, that monarch endeavored to cross the Nubian desert to Ethiopia. His supplies were soon exhausted; but elated by his former victories, and obstinate in his purpose, he disdained to retreat. His followers, after slaying their cattle, and feeding on the scanty herbage which, for a time, the ground yielded, came at last to a region of pure sand, destitute of all vegetation. Driven to the extremity of hunger, they began to devour each other, and Cambyzes was compelled to retrace his steps. An expedition sent against the Oasis of Ammon never returned or was heard of, having been probably overwhelmed or buried in the sand. For a time these terrible examples checked further explorations, till Alexander, seeking to establish a divine character, forced his way with his followers to the shrine of the temple of Jupiter Ammon; not, however, without encountering terrible sufferings. Mention is made in history of expeditions sent out by the Romans after the overthrow of Carthage, but nothing definite. About the commencement of the fifteenth century, the Portuguese began to explore the coasts of this continent. In 1433 they discovered the region around cape Bojador. In 1498 they passed around the cape of Good Hope; and in 1650 a Dutch colony was founded at this point. In 1761, Captain Henri Hop, a Dutchman, traversed the country of the Namaquas. In 1770, Bruce traveled through Abyssinia. In 1795, Mungo Park traced the course of the Niger. In 1793–6, Browne visited Darfour and Bornou. In 1797, Barrow penetrated as far as the Snowy mountains in southern Africa. In 1801, Trutter and Somerville reached Lattakoo,





the capital of the Bichuanas. In the year 1822, Denham and Clapperton crossed the Sahara, discovered lake Tchad, and traveled through Bornou and the Foulah or Fellatah country. In 1826, Laing penetrated to Timbuctoo. In 1830, Lander explored the Niger, and ascertained its outlet to be in the Bight of Benin. In 1844, Duncan penetrated into the interior from the Bight of Benin to lat. $13^{\circ} 6' N.$, and long. $1^{\circ} 3' E.$ In 1845-6, Richardson traversed a great portion of the desert of Sahara; and the Rev. Mr. Rebmann discovered a lofty mountain, covered with perpetual snow, in E. Africa, about 285 m. W. of Mombas. In 1849, Mr. Livingston discovered a large lake, called Uniamesi, in S. Africa. In 1850, Dr. Knoblecher reached about lat. $4^{\circ} N.$, on the White Nile.

The political constitution is rude and generally despotic; the sovereigns having almost unlimited power, held in check only by the turbulence of the chiefs.

The population is estimated variously at from 60,000,000 to 100,000,000. They are mostly in a state of barbarism. In ancient times the northern States, especially Egypt and Carthage, ranked among the most opulent, civilized, and enlightened nations then in existence. They have since relapsed into barbarism. Egypt is inhabited by Copts. W. of Egypt, and N. of Senegal, are the Arab races (the Moors, Berbers, Kabyles, &c.). These are a rough, roving race, living on the borders and in the oases of the great desert of Sahara; they keep large herds, chiefly of camels, on which they perform long journeys through the most desolate tracts. They are bigoted, expert thieves, and much dreaded by travelers. Central Africa, from Senegal S. to the country of the Hottentots and Kaffirs, is probably wholly inhabited

by negroes. These, though inferior to the Arab tribes in arts and attainments, are generally civil, gay, and hospitable; they wage constant war against each other, and are cruel to their enemies, exceedingly superstitious, believing in charms and witchcraft. They are of a deep black color, large flat noses, thick lips, and coarse black woolly hair. The Arabs are deeply browned by constant exposure to the sun, but their physical aspect is entirely different from that of the negroes. Cape Colony was originally inhabited by the Hottentots, who are now confined to the territory N. of the colony on the Atlantic side, and extend northward to about lat. $24^{\circ} S.$ The opposite coast E. of Cape Colony, as far N. as lat. $20^{\circ} S.$ is occupied by the Kaffirs.

Africa is the main seat of the slave trade. Other parts of the world have depended on its unfortunate inhabitants for their supply of slaves. Notwithstanding the efforts made for its suppression, this trade is still carried on. It has been calculated that about 110,000 slaves are shipped yearly from the S. parts of the W. coast, besides large numbers from other places. They are moved from place to place in caravans of from 100 to 3,000, comprising all ages, but chiefly boys and girls. The establishment of the Liberian republic has exterminated the trade for an extent of 600 m. along the W. coast, and it has been officially reported to the British Government that it has been suppressed on over 1,800 m. of the coast.

Mountains.—The Mount Atlas range begins at Cape Geer, or Ghir, $10^{\circ} W.$ long., and extends E. as far as $50^{\circ} W.$ long., where it approaches $32^{\circ} N.$ lat. A mountain, called Kilimandjaro, has been recently discovered in lat. $3^{\circ} 40' S.$, lon. $36^{\circ} E.$, the height of which is estimated at 20,000 ft.

The Desert of Sahara, whose full name is Sahara-bela-ma, "the Desert without Water," sometimes also called the Bahar-bela-ma, the "Ocean without Water," is a region of immense extent, occupying the central parts of Northern Africa. It extends eastward nearly across the whole continent of Africa, being separated from the Red Sea only by the valley of the Nile and the rocky country beyond it. Its length in this direction is not less than 2650 m. Its width is various. The widest part is between 0° and 10° E. lon., where the desert occupies nearly eighteen degrees of lat., or about 1200 m. But farther to the east it narrows at one place to 700 miles. It is certain that we do not overrate its extent by assigning it an area of 2,500,000 sq. m.

This immense region enjoys a smaller share of the gifts of nature than any other known portion of the globe. Soil and climate are unfavorable to vegetation, and consequently afford very sparingly the means of sustaining animal life. It is, however, not uniform in this respect. Near 15° E. lon. the desert is crossed by a more favored tract, in which Fezzan is situated; a district of which the soil at several places consists of clay capable of producing a kind of millet, and where groves of date-trees are numerous. Between Fezzan and Lake Tchad several stony ridges occur, at the bases of which wells are found, and in their neighborhood are some extensive plantations of date-trees, with pasture-grounds for cattle. But between them lie tracts, composed of loose sand, in which the camels sink nearly knee-deep, and quite destitute of vegetation. Portions of this desert are visited by showers between the months of August and October, when the sun is leaving the northern hemisphere. It is at this period of the year, and in the months which follow,

that the inhabitants venture to pass from one inhabited spot to another. The wells are then full if the rains have not fallen short of the usual quantity. Though they occur only at great distances from each other, commonly ten or twelve days' journey, they afford the means of filling the water-skins with which such travelers are provided. If the rains have been scanty or the weather unusually sultry, the wells are found dried up, and the travelers perish. A few months after the rains, the hot wind which sweeps over these plains has dried up most of the wells and every kind of moisture. This wind follows the diurnal course of the sun, blowing almost without interruption from the east, in the daytime, frequently with the violence of a gale, which however, is generally followed by a dead calm after sunset. The strong wind moderates the heat of the burning sun, and hence the nights are usually more insupportable than the noonday heat. The violent gales frequently raise the loose sand in such quantities that a layer of nearly equal portions of sand and air, and rising about twenty feet above the surface of the ground, divides the purer atmosphere from the solid earth. This sand when agitated by whirlwinds sometimes buries caravans and frequently puts them into the greatest confusion. There are a few species of wild animals in these wildernesses; lyons and panthers are met with occasionally; they prey on the gazelles and antelopes, which are found in the tracts overgrown with bushes; the first of these animals is rather frequent. Ostriches are very numerous, and they are hunted by the natives in the months preceding the rains for their feathers.

This country has a coast line of more than 15,000 m. in length, and is nowhere deeply indented by bays and gulfs, excepting the gulf of Guinea

on the W., or Atlantic shore. Besides this, the principal gulfs are, the gulf of Sidra on the N.; the Bights of Benin, and Biafra on the W.; Delgoa, and Soufala bays on the E.; and the gulf of Suez, and Abouka in the N. part of the Red sea. The island of Madagascar, about 1000 m. long, and 300 m. wide on the S. E. coast, is the largest of the islands adjacent to this continent; the others are small and few.

The principal rivers are the Nile, Niger, Senegal, Gambia, Rio Grand, Congo, Coanza, Gariep or Orange and the Zambezi. The Nile is the longest, its length has not yet been ascertained, its sources being as yet unknown, but it is estimated at 2,800 m. long. It is partly formed by the confluence of the Bahr-el-abiad or White Nile and the Bahr-el-azrek or Blue Nile. It flows northward and through the richest and most populous part of Egypt, and discharges itself into the Mediterranean through innumerable mouths. The valley through which it flows is from 6 to 12 m. wide, and is rendered rich by its annual overflow. The Niger or Quorra R. is about 2,700 m. and the Senegal 1,200 m. long. The Tyambegi is 900 m. long, navigable for 200 or 300 m. from its mouth during the rainy season.

Lake Tchad situated in the territory of Bornou and nearly in the center of the continent is the largest lake known. It is about 220 m. long and 80 m. broad, and is 850 ft. above the level of the sea. Instead of discharging its waters into the Niger or the Nile, as was supposed, Dr. Vogel recently ascertained that the rivers for many miles around all run toward it. The lake is very shallow, and the greater portion of it is occupied by a vast labyrinth of small islands, inhabited by a tribe called Biddumas. Lakes are also met with among the ranges of the Atlas Mts., the

largest of which is Lowdejah. To these may be added lake Uniamesi, the "Great Water," recently discovered in S. Africa.

Minerals.—Gold, gold dust, and iron are generally diffused throughout Africa. The richest gold mine known is that of Natakoo—a small round hill, composed of unctuous argillaceous earth, situated on a plain about 300 ft. high, and 3,000 paces in circumference at the base. The gold is here found in the various forms of lumps, grains, and spangles. At a depth of 20 ft., lumps of pure gold, weighing from 2 to 10 grains, are found. Forty m. N. of Natakoo, are the gold mines of Semayla. The next richest gold mine in this region is that of Nambia. In a valley E. of the Rio d'Oro is the mine of Kombadyria. In this valley, the beds of the adjacent streams contain gold; and throughout this part of W. Africa the precious mineral is distributed over a surface of 1,200 sq. m. Large quantities of gold-dust are also found on the banks of the Barra, on the W. coast. Before being employed as an article of commerce, the gold ore and dust are melted down and manufactured into trinkets, never being offered for sale except in a manufactured shape. Iron occurs in Morocco, Abyssina, Algeria, and in various mountainous districts of Central and S. Africa. Salt is found in great abundance throughout the greater part of Africa. Maganese is also common. Extensive deposits of the nitrates of potash and soda have recently been discovered in the neighborhood of Angra Pequena, on the W. coast of S. Africa. Copper ore is found a short distance beyond the Orange river; and lead of a superior kind exists near the mouth of the Van Staaden's river, in the district of the Uitenhage, in Cape Colony.

Vegetation.—The greater portion of Africa may

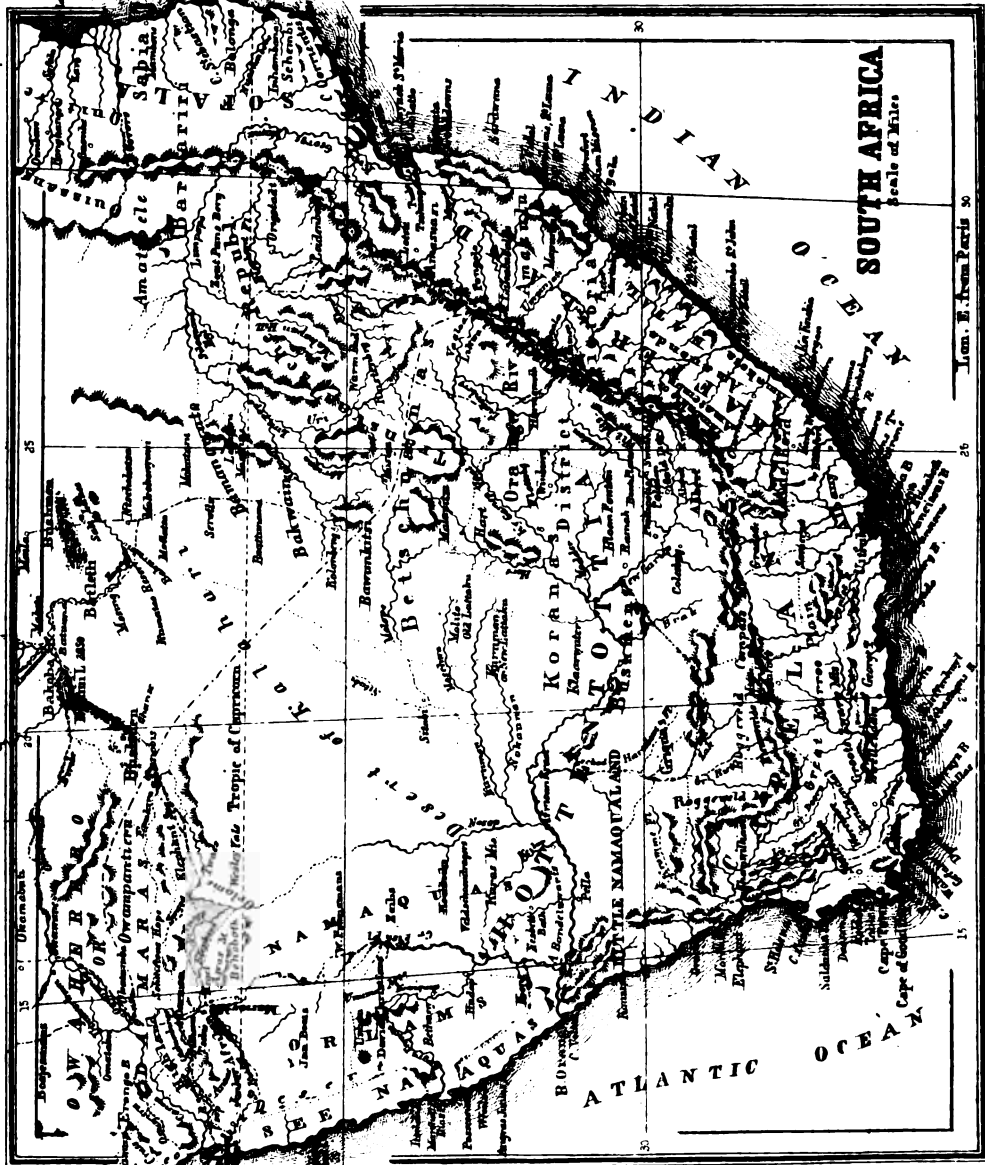
be said to be wholly a palm region, excepting its S. extremity. Along the Mediterranean, the vegetation is luxuriant. Wheat and maize are cultivated; the olive, the orange, the castor-oil plant, the fig-tree, and the dwarf and the date palms, are plentiful. The lotus-tree is here so abundant, that its berries (which are still used as food) constituted formerly an important article of subsistence to some ancient tribes. South of the Atlas Mountains, dates are so abundant that the tract of land is called the "Land of dates." Rice, maize, plantains, yams, manioc, pulse, and earth-nuts are cultivated along the whole W. tropical coast. In Senegambia and Nubia, the baobab tree is found, and its fruit forms an important article of food for the natives. The acacia flourishes in the same region. Along the W. coast, and on Guinea coast are the *Elaeis Guineensis*, from which palm-oil and wine are obtained; the cabbage palm, the wax palm, the Shea butter-tree, the African oak, and the mangrove; and of fruits, the banana, papaw, custard apple, lemon, orange, and tamerind. At the Cape of Good Hope, wheat and other cereals are cultivated. The vegetation of the E. coast is similar to that of the W.; and the cotton plant is very abundant.

The *Zoology* of Africa is similar in many respects to that of Asia, while in the southern portions we find many European animals. As we recede from the regions which border on these two countries a marked peculiarity is discovered. Nature has not been so prolific either in number or in the variety of form, in this continent as on others of similar extent, owing to the vast deserts, which abound, destitute of water and vegetation. There are 300 different species of mammals of which 242 are peculiar to the country. Of the quadrumana (apes, monkeys, etc.) there are 55

species, and 48 are peculiar: of the cheiroptera (bats), 30 species, and 26 peculiar; of the carnivora, 66 species, and 52 peculiar; of the rodentia (gnawing animals,) 48 species, and 38 peculiar; of the edentata (sloths, ant-eaters, etc.) 3 species, and all peculiar; of the pachydermata (hog, horse, elephant, etc.) 15 species, and 12 peculiar; of the ruminantia, 73 species, and 63 peculiar; of cetaceæ (whales,) 10 species, and 8 peculiar. The quadrupeds of burden are the camels (Arabian,) and the horses and asses of Barbary. Among the carnivorous and ferocious beasts, are the lion (of which there are three varieties—viz: the Barbary, the Senegal, and the Cape lions,) the leopard, panther, and hyena. Elephants are so numerous all over Africa, S. of the Sahara, that their tusks form a leading export. The hippopotami are peculiar to Africa, and are very numerous in the large rivers and lakes. There are at least 50 species of the antelope peculiar to Africa. Many of the birds are of the richest and gaudiest plumage. The ostrich is now almost exclusively confined to Africa. The crocodile is found in the rivers of the tropics; and lizards, serpents, and various species of voracious reptiles are in all parts. Locusts and ants are excessively abundant, and are the scourge of the country.

The *Climate* of Africa is greatly diversified; its extensive arid plains, swamps, marshes, and the exhalations of a rank vegetation giving it a fatal variety. The S. and N. extremities, and the E. coast (with a few exceptions,) are sufficiently healthy; but on the W. coast the heat is most intense and destructive to all, except the natives. Senegambia, between 10° and 11° N. lat., is, perhaps, the hottest place on the globe. The whole of the Gold coast is also extremely unhealthy, owing to the sudden extremes of heat and





cold, and to the thick, sulphureous exhalations which rise from the valleys every morning, and diffuse themselves far over the surface of the land, spreading death and disease among the white population. Upwards of a third of all the Europeans who have undertaken to ascend the Senegal river have perished in the attempt. In the case of the Niger expedition in 1841, numerous experiments were made to ascertain whether the air and river water contained an extra quantity of sulphuretted hydrogen gas, supposed to be the agent of death in these regions; but from none of the careful experiments was this gas found to exist in excess. Besides the known and alleged causes for this fatality, there are other and mysterious influences in operation.

The *Political divisions* of Africa are numerous, though but few of these are important. Egypt ranks as the first power, and the other countries under the Mohammedan sway are the next important. Algeria is now a French possession. The colonies of Great Britain are, Sierra Leone, Gambia, and the Cape Colony, besides several unimportant stations on the Gold, Slave, and East coasts. The Dutch possess Elmina and Axim, on the Gold coast. The Portuguese have several possessions on both the W. and E. coasts; and the French on the Senegal and Gambia. The republic of Liberia was founded, in 1820, as a permanent home for the free blacks and manumitted slaves of the United States.

Recent Explorations.—Of these, the most interesting and important is that prosecuted under the combined patronage of the English and Prussian Governments. The explorers, Mr. James Richardson, accompanied by Drs. Barth and Overweg, left Tripoli, March 30th, 1850. They proceeded to Mourzuk, the capital of Fezzan, and from thence

to Central Africa, through Air, or Ashen, a kingdom never before visited by Europeans. Dr. Barth made a journey to Agadez, the capital of Air, a city of 8,000 inhabitants, situated in a rich and beautiful valley. The entire kingdom contains a population of 70,000. The climate is healthy for Europeans. Arriving in Soudan, the travelers separated, in order to explore as much of that country as possible. Mr. Richardson fell sick, and died at Ungurntua, on the 4th of March, 1851. Dr. Overweg spent two months in Gaber and Mariadi. He rejoined Dr. Barth at Kuka, on the 7th of May. Dr. Barth next visited the kingdom of Adamawa, which he found thickly populated. On the 18th of June, he discovered the great river Benue, at its junction with an affluent called the Faro. Yola, the capital, is situated on a level plain, at the foot of the mountain Alantika, 10,000 ft. high. Dr. Overweg explored Lake Tchad. They next started for Kanem and Borghoo, an unexplored country to the N. E. of lake Tchad, where near the capital of Kanem, they were attacked by Tibboos, and were obliged to retreat. Returning to Kuka, they next visited Mandara. Dr. B. next went to Masena, the capital of Baghirmi, but he was repulsed. Dr. Overweg attempted to penetrate the great Fellatah kingdom of Yakoba, but he was likewise repulsed. He died Sept. 27th, 1852. Dr. B. explored the whole course of the Niger, and discovered two large kingdoms, Gando and Hamd-Allahi. An expedition to the Niger, by Mr. Macgregor Laird, in the winter of 1853-4, established the fact that the Chadde and Benue are one and the same river. He expected also to penetrate through Baghirmi into the unknown and powerful kingdom of Waday. Dr. Livingston, who discovered lake Unimaesi in 1849, is now exploring in S. Africa.

EGYPT.

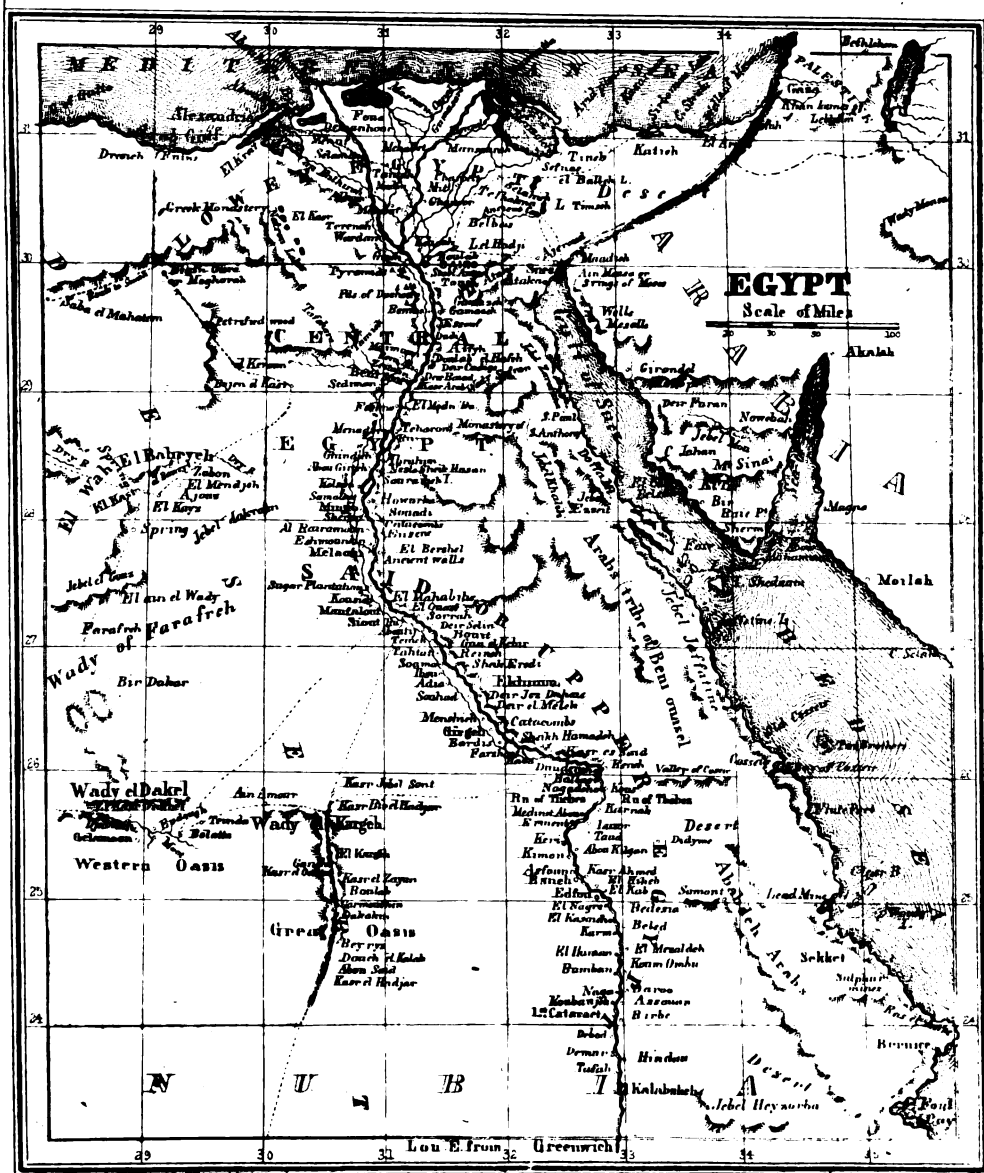
Is bounded N. by the Mediterranean Sea, E. by the Isthmus of Suez and the Red Sea, S. by Nubia, and W. by the Great Desert. This country, unique in its nature and in its historical records, deserves a more minute description than the other countries of Africa. Egypt consists entirely of a vale, watered by the Nile, by which it is in part formed; and confined, on the right and left, by a barren expanse of deserts. The physical picture of this country, therefore, will be introduced with an account of the Nile, whose bounties render Egypt independent of all foreign supplies, and independent of the rains of heaven.

The Nile, the largest river of the old world, still conceals its true sources from the research of science. At least, scarcely any thing more of them is known to us now than was known in the time of Eratosthenes. That learned librarian of Alexandria distinguished three principal branches of the Nile. The most easterly was the Tacazzé of the moderns, which flowed down the north side of the table-land of Abyssinia. The second known branch, or the Blue River, first makes a circuit on the table-land of Abyssinia, then flows down through the plains of Sennaar, or of Fungi. The sources of this Blue River were found and described by the Jesuits, Paez and Tellez, two centuries before the pretended discovery of Bruce. These two rivers are tributaries to the White river, the Bahr-el-Abiad, which is the true Nile, and the sources of which must lie in the countries to the south of Darfoor.

The true Nile, whatever may be its origin, receives two large rivers from Abyssinia, and then forms an extensive circuit in the country of Don-

gola by turning to the south-west. At three different places a barrier of mountains threatens to interrupt its course, and at each place the barrier is surmounted. The second cataract in Turkish Nubia, is the most violent, and most unnavigable. The third is at Syené, or Assouan, and introduces the Nile into Upper Egypt. The height of this cataract is generally about four or five feet. Near Cairo, the chains which limit the valley of the Nile, diverge on both sides. The one runs north-west towards the Mediterranean: the other runs straight east of Suez. In front of these chains a vast plain extends, composed of sands covered with the mud of the Nile. The depth and rapidity of the Nile differ in different places, and at different seasons of the year. In its ordinary state, this river carries no vessels exceeding sixty tons burden from its mouth to the cataracts. The rise of the Nile commences with the summer solstice. The river attains its greatest height at the autumnal equinox, continues stationary for some days, then diminishes at a less rapid rate than it rose. At the winter solstice it is very low, but some water still remains in the large canals. At this period the lands are put under culture. The soil is covered with a fresh layer of slime of greater or less thickness. The fertility and general prosperity of Egypt depend much on a certain medium in the height to which the Nile rises in its inundations; too little rise or too much is nearly equally hurtful.

Geology.—The mountains on the west side of the Nile seem to consist of limestone containing many shells. In those of the east side, serpentine and granite seem to form the highest ridges. The





stone of which the pyramid of Cheops, near Djizeh is built, is a fine grained carbonate of lime, of a light brown color, and easily cut. In the neighborhood of the pyramids are found the Ethiopian jasper, the quartz rock with amphibole, and the Egyptian pebble, which is a quartzose agate coarsely veined. There is likewise found among them a small specimen of a dark brown micaceous schistus. The others are limestone, feldspar, breccia, serpentine, potstone, marble with veins of silvery mica, swinestone, jaspers of all varieties, the topaz or chrysolite of the ancients, amethyst, rock-crystal, chalcidony, onyx, helitrope, obsidian and lapis lazuli, but no emeralds. The greater part of the specimens are basalt, the Ethiopian stone of Herodotus and of Strabo.

Changes.—This country has undoubtedly undergone violent revolutions, of a date prior to the present constitution of the globe. Its modern changes have, in extent and importance, been much exaggerated by authors attached to system. M. Reynier remarks that "several spots which the ancients have delineated on the borders of the deserts are still recognized; the canal of Joseph, though neglected for ages, is not in any part obstructed." Others say that the canal of Joseph is partly choked up with accumulations of slime. This canal is 84 m. long. It was employed to conduct the water into the district of Faioom, and into lake Mœris. It is probable that the canal dignified with the name of Joseph, like many other remarkable works, was executed by order of king Mœris. The waters then filled the basin of the lake Bir-ket-el-Karoon, which received the name of the prince who effected this great change.

Climate.—From the nature of the surface, and the universal aridity of the surrounding deserts, Egypt is much hotter than most other countries

under the same parallel of latitude. The heated and rarefied state of that portion of air which is in immediate contact with the sand through the day, is productive of a refraction of the rays of light, giving origin to the surprising appearance called the *mirage*, presenting on the dry surface an exact representation of a lake of water, sometimes ruffled into waves, at other times still and smooth, and appearing to reflect like a mirror the images of houses and other objects situated beyond it. Such is its most common appearance when seen from a distance. This phenomenon is the more striking, as water is generally much in request with the thirsty traveler, in a country where it is so scanty, and so dependent on the vicinity of the Nile, and when the illusion vanishes on his arriving at the spot, he feels a cruel disappointment, especially if not much used to the phenomenon. The winds are very regular during the months of June, July, August, and September, blowing almost without interruption from the north, and north-east. In the day the sky is clear, without clouds or mists. But the cooling of the atmosphere consequent on the setting of the sun condenses the vapors. These are then observed to pass with a hurried motion from north to south, and this motion continues till after sunrise on the following day.

The approach of the vernal equinox changes the face of the country; the hot south wind begins to blow, but seldom lasts more than three days at a time. When this south wind, called the *khamseen* in Egypt, *samiel* in Arabia, and *samoon* in the desert, begins to blow, the atmosphere becomes troubled, sometimes acquiring a purple tinge; the air seems to lose its power of supporting life and vigor; a dry burning heat reigns universally, and the whirlwinds resembling t

blasts of a heated furnace, sweep along the country in frequent succession. They often raise the sand and even small stones to a considerable height, so as to form a black cloud; and deposit it in large heaps on particular spots of ground. The fine sand is forced into the houses through every cranny, and every thing is filled with it. It is then that the plague makes its appearance in all its dreadful power, a disease the nature and origin of which still escape the researches of medical science.

Agriculture.—The one class belongs to the lands watered by the natural over-flowings of the Nile, and the other to those which the inundation does not reach, and which are supplied by artificial irrigations. Among the first we include wheat, barley, spelt, beans, lentils, sesamum, mustard, flax, anise, carthamum, or saffron wood, tobacco, lupins, vetches, *barsim* or Egyptian trefoil, fenugreek, pumpkins, melons, cucumbers of different kinds, and lettuce. The best wheat grows at Maraga, in Upper Egypt. Barley, with six rows of grains in the ear, forms a large proportion of the food given to cattle and horses. The cucurbitaceous vegetables, and also tobacco, and lupins, generally cover the banks of the river in proportion as the water subsides, and the islands which it leaves uncovered. The melons and cucumbers grow almost visibly. In 24 hours they gain twenty-four inches of volume, but are generally watery and insipid; the tobacco is weak, but reckoned much pleasanter to smoke than that of America. In Upper Egypt the grain is pulled when ripe; and in some parts of Lower Egypt it is cut with a sickle. The sycamore, or fig of Pharaoh, less valued for its fruit than for its deep and broad shade, the carob, the jujube, the tamarind, and other trees, are cultivated. The vine, in ancient times, formed a branch

of culture. Antony and Cleopatra inflamed their voluptuous imaginations by drinking the juice of the Mareotic grapes. In the days of Pliny, Sebennytus furnished the Roman tables with their choicest wines. At present it is not cultivated.

Animals.—The want of meadows prevents the multiplication of cattle. They must be kept in stables during the inundation. The Mamelukes used to keep a beautiful race of saddle-horses. Asses, mules, and camels, appear here in all their vigor. The numerous buffaloes often attack the Franks on account of their strange dress, and frequently bright colors, particularly when they happen, as in the instance of the British soldiers, to be dressed in scarlet. In Lower Egypt there are sheep of the Barbary breed. The large beasts of prey find, in this country, neither prey nor cover. Hence, though the jackal and hyena are common, the lion is but rarely seen in pursuit of the gazells which traverse the deserts of the Thebaid. The crocodile and the hippopotamus, these primeval inhabitants of the Nile, seem to be banished from the Delta, but are still seen in Upper Egypt.—The islands adjoining the cataracts are sometimes found covered with flocks of crocodiles, which choose these places for depositing their eggs. The voracity of the hippopotamus has, by annihilating his means of support, greatly reduced the number of his race.

History.—In the history of every age Egypt holds a conspicuous place. Under her Pharaohs she derived strength from the stability of her laws, and was often the successful rival of the greatest monarchies of the world. Invaded and devastated by Cambysea, she was for 193 years either the subject or the vassal of Persia, and frequently in a state of open rebellion. The Greeks at last came to her assistance. Alexander the

Great was received by her as a deliverer, and, it is probable, intended to make this country the seat of his empire.

For three centuries the Ptolemies made Egypt a flourishing country in commerce and the arts, and her towns under them were almost converted into Grecian colonies. Augustus united this fertile kingdom to the Roman empire, and for 666 years it was the granary of Rome and Byzantium. It formed one of the earliest conquests of the successors of Mahomet. About the year 887, the power of the caliphs was succeeded by the reign of the Turcomans, their own janissaries, whom they had called to their aid. The dynasties of the Tolonides, the Fatimites, and the Aicobites, ruled over Egypt till the year 1250.

The Mamelukes, or military slaves of the Turcoman sultans of Egypt, then massacred their masters, and took possession of the sovereignty. The Turkish dynasty, or that of the Bassarite Mamelukes, reigned till 1382. The Circassian race, or that of the Bordjite Mamelukes, ruled here till within these very few years; for Selim II. emperor of the Ottomans, after taking possession of Egypt, only abolished the monarchical form of government of these Mamelukes; he allowed an aristocracy of twenty-four Beys to remain, subjected to a stated tribute. Since his death, the Mamelukes have more than once thrown off the authority of the Ottomans. In 1798, the French abolished the Mameluke aristocracy, and made themselves masters of the whole of Egypt. The rival selfishness of Great Britain, aiding the views of the Sublime Porte, poured from the British isles, from the Bosphorus, and the Ganges, numerous armies to exterminate the French army, which was too happy to take shelter under the wing of the civilized maxims of war, and return

safe to Europe, to avoid falling under the ruthless sabre of the Turks. In 1801 this evacuation was effected, and barbarism again took possession of her prey.

Ruins.—This country abounds in ruins, and colossal monuments of such dateless antiquity, that the names of their builders, or even the purposes for which they were erected, have been lost in the long night of ages, whose storms they have defied. Among the most remarkable of these memorials of an unknown age are the Pyramids, the largest of which—that of Cheops, on the W. bank of the Nile, near the city of Djizeh—is 477 feet high, length of base 720 ft., and several others approximate to this in magnitude. The *Sphinx*, also near Djizeh, consists of the head of a virgin, with the body of a lion, with a temple 60 ft. high between its paws. The Pillar of Severus—called also Pompey's Pillar, is a column 88 ft. high, it was part of the famous Serapeum, a vast temple, consecrated to the worship of an Egyptian divinity. Prominent among ruins stands Thebes, in Upper Egypt, the famous city of a hundred gates, known to Homer;

† "From Thebe sacred to Apollo's name—

Action's realms—our conquering hero came."

Diodorus also speaks of it, as already in ruins. No description can give an adequate idea of these wonders of antiquity, both in regard to their incredible number and their gigantic size. Their form, proportions, and construction, are almost as astonishing as their magnitude. The forests of enormous columns, towering high above the palm trees of the country, with their capitals gracefully adorned with the *lotus*, and the shafts covered with ornamental figures, the avenues of sphinxes miles in length, the colossi placed at the numberless

† *Iliad* I., 478.

gates, all produce a most bewildering impression on the mind of the admiring traveler. An iron sickle was lately found under one of the buried statues nearly of the shape of those which are now in use, though thicker; it is supposed to have lain there since the invasion of Cambyzes, when the idols were concealed by the superstitious to save them from destruction.

Railroad, etc.—The railroad from Alexandria to Cairo was commenced in Oct. 1851, and opened to the Nile, 66 m., near the close of 1854. This road is an English enterprise, built to facilitate the overland communication with India and other distant colonies. The construction was made by Mr. Stephenson and other English engineers. The whole route to Cairo is about 120 m.

The route for the proposed Ship Canal across the Isthmus of Suez, to connect the Mediterranean with the Red Sea, was thoroughly surveyed during the winter of 1855, by the International Commission, which reported, on Jan. 2, 1856, to the Viceroy, Mohammed Said Pasha, that the canal could be easily constructed between the Bay of Suez and the Gulf of Pelusium, at a cost of \$40,000,000, and that its success would be certain. The difference of level is said to be about 32 ft.

The *Government* is vested in a Viceroy, who is appointed by the Pasha of Egypt, and resides chiefly at Khartoom. It is strictly a military despotism, and heavy tributes to the Pasha are exacted from the native authorities, in the shape of taxes upon the date-groves, the use of the water-wheels, the camels, cattle, etc.

CAIRO.—Kaherah, or Cairo, was built in the 360th year of the hegira, A. D. 970, by the Caliph Almanzor, the first of the Fatimite caliphs who reigned over Egypt. That city was afterwards joined to that of Fostat, built also by the Arabi-

ans. Saladin, about the year 572 of the hegira, A. D. 1176, built the ramparts with which it is surrounded, which are 18,116 yards in length. But in this vast extent we find only one narrow unpaved street. The houses, like all others in Egypt, are badly built of earth or indifferent bricks, but differ from most others, in being, like those of Rosetta, two or three stories high. Being lighted only by windows looking into back courts or central squares, they appear from the street like so many prisons. The aspect of Cairo is a little relieved by a number of large public but irregular squares, and many fine mosques. Cairo has several schools, a museum of Egyptian antiquities, a magnetic observatory, a theatre, several hospitals, and a lunatic asylum. It has 9 cotton-spinning factories, 10 for weaving silk and cotton, 13 for manufacturing cloth; 14 calico printing works; 18 dye-works; 15 bleacheries, and 46 iron foundries. The site of Cairo is said to be that of Babylon of Cambysea. It was the capital of the Sultans of Egypt till 1507, and since that time it has been the residence of the Pashas.

ALEXANDRIA.—The ancient glory of Alexandria is still attested by the extensive ruins by which the present city is surrounded, and in a manner concealed. It is built on a sandy strip of land formed by the sea, along the ancient mole which once connected Pharos with the continent. Of its two harbors the most easterly seems to have lost its former advantages by the changes which the coast has undergone. The Turkish quarter is irregular and dirty, but in the Frank quarter there are many good streets and a fine square, around which are the principal hotels. Alexandria is the great seat of the foreign commerce of Egypt. It contained the most celebrated library of antiquity numbering 700,000 volumes. Pop. 80,000.

AFRICAN ISLANDS.

SOCOTORA lies at the eastern point of Africa, its soil is dry, strong, and almost destitute of water and vegetation: the dust of the shore is carried by the wind even to the summit of the central chain of mountains. Nevertheless, in the sheltered valleys, the best aloes, as well as a great quantity of dates, are produced. It abounds in goats and poultry, but there are very few oxen.

ALMIRANTE ISLANDS.—At the distance of three hundred marine leagues south of Socotora, are a great number of small archipelagos, discovered by the Portuguese, which, even at this period, are not well defined. On the charts prior to the *Oriental Neptune* of M. d'Apres de Manneville, the general name of *Almirante Islands* comprehended all those small islands situated between 4° and 6°, S. lat. A more eastern group has got the name of the *Seychelle Islands*. The largest, the isle of *Mahe*, is remarkable on account of the establishment formed there by the French, wherein they cultivated with success the nutmeg and clove tree.

COMORA.—The Comora isles enjoy a very healthy climate. The country everywhere exhibits the appearance of a luxurious vegetation. The principal domestic animals are the goat and zebra. In the fields are found pintados and quails. The population is composed of negroes intermixed with Arabs.

MADAGASCAR is more than 340 leagues in length, and in breadth, in some places 120, giving it 28,000 square leagues of surface. Although almost wholly comprised within the torrid zone, it affords, on account of the elevation of its soils, an agreeable variety of the seasons, and enjoys in

some degree all the advantages of temperate climates. A double chain of mountains, from twelve to eighteen hundred toises high, traverses it from north to south, enclosing, in all probability, a sort of central plateau, and separating the two maritime parts almost equally, giving rise to several rivers containing fish, and subject to periodical inundations.

ISLE OF BOURBON.—The whole Isle of Bourbon is composed of two volcanic mountains. In the southern part, which is the smallest, the subterranean fires still commit ravages; that of the north is much larger; the volcanic eruptions that formerly made great devastations, are now no longer in action. Plantations of clove trees, resembling pleasure groves, immense coffee trees, and golden fields of corn, agitated by a continued waving motion, adorn this country, of which they constitute the wealth.

ISLE OF FRANCE.—The *Isle of France*, less fertile, and of less extent than that of Bourbon, is indebted to its harbors and roads for a greater commercial and military importance. It belongs to the English.

St. HELENA is nine leagues in its greatest circumference. Steep shores form for it a natural and nearly impregnable rampart. It is divided into two unequal parts by a chain of mountains intersected by deep valleys. The peak of Diana, at the eastern extremity of the great chain, is 22,692 feet above the level of the sea. This rock is immortalized by the incarceration of Napoleon Bonaparte, from 1816 to the time of his death, May, 5, 1821.

St. THOMAS is a fertile island, 12 leagues in length—remarkable for the intersection of the Terrestrial and Magnetic Equators.

A U S T R A L I A .

THIS immense Island lies between the parallels of $10^{\circ} 45'$ and $38^{\circ} 45'$ S., and $112^{\circ} 20'$ and $153^{\circ} 30'$ E. lon. : its width N. and S. is 168° , and its length E. and W., is 2,227 geographical miles ; its area is estimated at 2,690,810 sq. m.

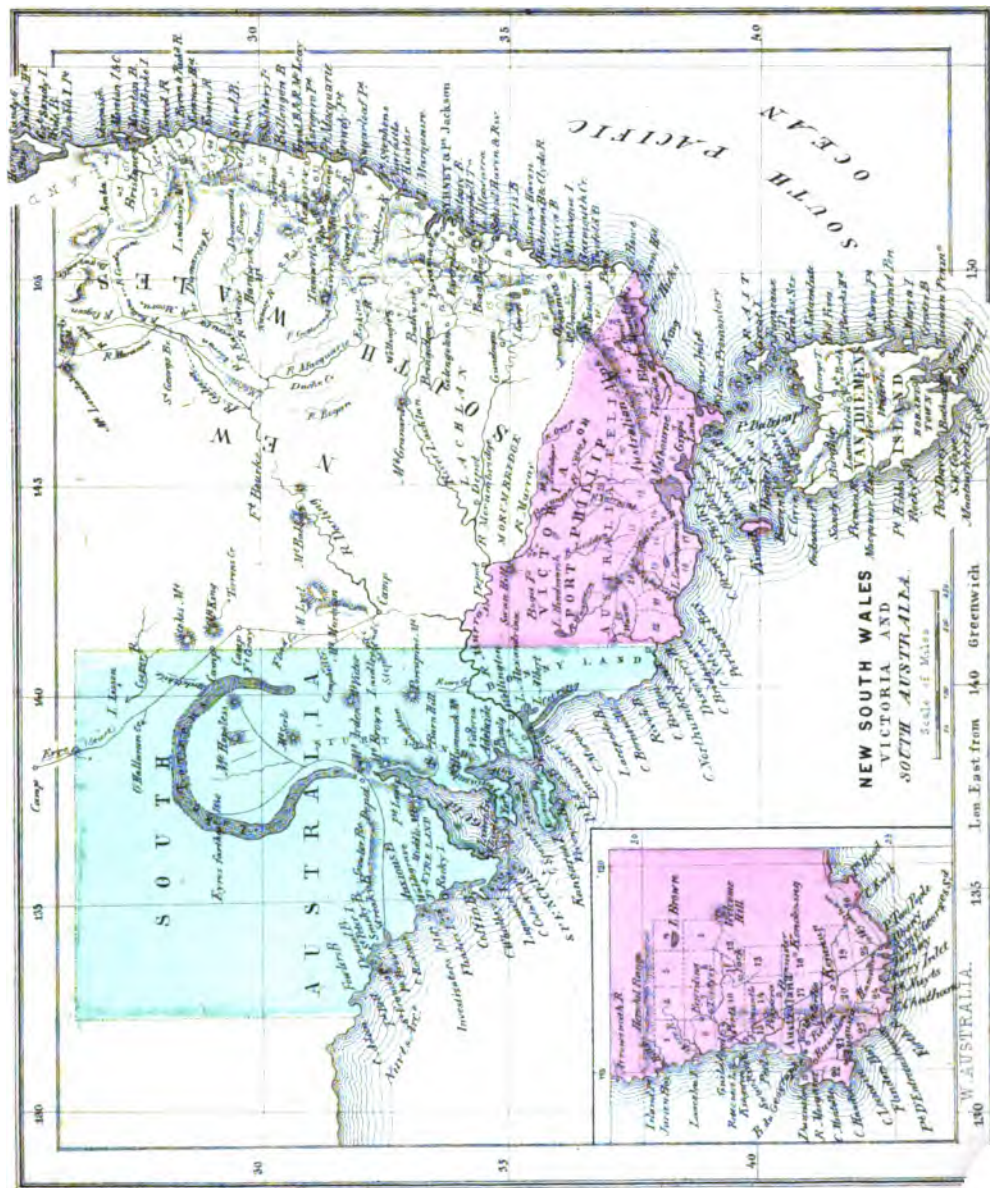
In the year 1536, La Terre Australie was placed, on supposition by geographers, at the extremity of Cape Horn ; in 1542 the "Great South Land" was termed Java Le Grand, and placed as a continuation of the Eastern Archipelago. In 1605 the N. coast was seen by Quiros, called Australia del Espiritu Santo, and was supposed to be a part of the "Great South Land," which geographers then imagined occupied the greater part of the Antarctic Circle. In 1606, '16 '23, '28, '44, the Dutch discovered the W., S., and N. W. shores of this vast island, to which they gave the name of Nova Hollandia (New Holland.) In 1688-9, Dampier visited the N. W. coast, and in 1770 the celebrated Cooke traced and surveyed the E. and N. E. shores, and sailed through the straits called after Torres, a Spanish navigator, who passed through them in 1606. At the suggestion of Captain Cook and of Sir Joseph Banks, a penal settlement was established at Sydney Cove, in Port Jackson, (contiguous to Botany Bay) in 1788, and the country was named New South Wales. The success attending this colony encouraged the settlement at Hobart Town, Van Diemen's Island, in 1801-2 ; at Swan River, Western Australia, 1329, '30 ; Odelade, South Australia, in 1835-6 ; of Melbourne, Port Phillip, or Victoria, in 1836.

Australia has a peculiar outline, formed in a great degree by the different degrees of force to

which the land is subjected by the surrounding water. On the S. where the coast is not protected by Van Diemen's Island, the tremendous effect of the unbroken roll of the ocean from the pole is manifested in the deep Bight. On the N. W. the full swell of the Indian Ocean produces a corresponding slope of the coast ; on the N. E. the Pacific flows with majestic sweep from the American continent ; and on the N. the fluctuating pressure caused by the monsoons is broken by the islands of the Eastern Archipelago. The coast-line of Australia is marked by deep gulfs, fine bays, and capacious havens. Australia, like the other continents, has an island of considerable magnitude attached to it, namely, that of Van Diemen, or Tasmania, which lies at its southern extremity.

This immense island is settled but a short distance from the shores ; the interior as far as known, being a rugged waste, destitute of water.

The natives or aborigines, differ from other races in features, complexion, habits and language. Their color is nearly that of the African ; their long, black hair resembles that of the Malay, and their language is near to our American Indians ; while in their physical traits and manners there is much that bears no analogy to any other people. They are of middle height, slim, with long limbs. From their wandering life, irregular habits, bad food, they are extremely meagre, with a protuberant abdomen. They are difficult to manage, easily offended, and revengeful. The natives of New South Wales are proud, own no superior, and exacting no deference ; they are usually silent, and reserved. The social system of the Australians



W.AUSTRALIA.

Lon East from 140 Greenwich

1.50

is regulated by custom alone. Having no system of government, or any acknowledgment of power to exact laws, they are solely guided by old usages, and can give no account of their origin. They have some idea of a future state, although some assert that the whole man dies, and nothing is left of him; while others suppose his spirit lives either as a wandering ghost, or metamorphosed into a bird, or other creature. From their taciturn habits, no definite idea can be obtained of their religious beliefs, and missionaries have had very little success.

The aborigines are fast disappearing; their number has been estimated at from 200,000 to 60,000. The ravages of intoxication and disease, together with their occasional warfare, readily accounts for their rapid decline. New South Wales was early occupied by the English who established a penal colony at Botany Bay. The appearance of the country in this neighborhood, in its general features, is different from other portions of the globe, owing to the dryness of its climate and the prevalence of sandstone rock. The average elevation of the immediate land is from 350 to 400 ft., extending in gentle undulations to a great distance inland. Throughout the wide plain there is little to relieve the eye, except here and there a small cultivated spot. Inward from the coast, the country appears at a distance to be traversed by ridges, but on approaching their apparent position they melt away into rounded elevations of gradual inclination. Still farther W., the undulating region is bounded by inaccessible declivities. These are the edges of the Blue Mts. running N. and S., and rise in some places to a height of 3,500 ft. The aridity which characterises the soil in the vicinity of Botany Bay, prevails generally throughout the rest of

the country. A few marshy spots are seen covered with bushes; occasionally basaltic rock is met, and where it prevails vegetation abounds. Before reaching the great western barrens there are many fertile places. The more remote parts of the interior have not yet been explored; it is supposed to be a desert from the dry and scorching winds which blow from the west. The greatest distance explored is only 450 m. which is not a fourth of the distance to the W. coast.

The rivers are few and mostly not navigable. The Murray, in S. Australia; the Hunter and Brisbane, in New South Wales; the Albert emptying into the G. of Carpentaria; the Adelaide, emptying into Van Diemen's G.; the Victoria, and Prince Regent. Fitzroy and Glenely on the N. W. coast, and the Swan in W. Australia, are the only streams navigable for ships for even a few miles from the ocean, and even their entrances are obstructed by bars. The western rivers often disappear in swampy lands.

The lakes are mostly saline, sufficiently strong in some parts to yield large quantities of salt.

Lead and iron is found in small quantities. The other minerals, are chalcedony, agates, jasper sulphur, alum, plumbago, and magnetic iron. Gold is abundant in Victoria, and among the Blue Mts. in N. S. Wales. The principal district in which gold was first discovered was in the neighborhood of the town of Bathurst, lying to the W. of the Blue Mts. In 1852 still richer discoveries were made in Victoria, at Ballarat, Mt. Alexander, Lake Omeo, and other places. One lump was found in 1852, at Mt. Alexander, weighing 27 pounds 8 ounces of perfectly pure gold, and another not so pure, which yielded 100 pounds of the metal. In precisely 12 months from the finding of the first gold, about \$17,300,000 were ex-

ported. The estimate of the total production of gold in 1851-4, was, \$230,962,865.

The capital is Sydney, at the head of Port Jackson harbor, is well built, and contains a population of 90,000. The most important public buildings are the churches; the Government-house, a very handsome structure; the Legislative and Executive Council chambers, consisting of a handsome range of stone buildings, with a noble colonade, forming a verandah and balcony; the Custom-house, Public Library, Public Markets, Court-house, and Jail; the new barracks, a large but plain series of buildings, etc. A large area, called Hyde Park, about 2 m. in circuit, is reserved for public purposes, and forms one of the chief attractions of the city; one side of it is appropriated to a botanical garden; the other, extending along the shore, is laid out in walks, terraces, and slopes. The trade of Sydney is very extensive.

MELBOURNE, the capital of Victoria, situated at the head of Port Philip, contained in 1850, 1,500 inhabitants, but since the discovery of gold in its vicinity it has largely increased, until it is now estimated at about 72,000. The streets are broad and intersect at right angles. More than half of the houses are built of stone and brick, and none are now allowed to be constructed of wood. Many have fine gardens attached. Some of the public edifices are of handsome construction. The town is simply supplied with water from the Yarra.

WESTERN AUSTRALIA includes all that portion

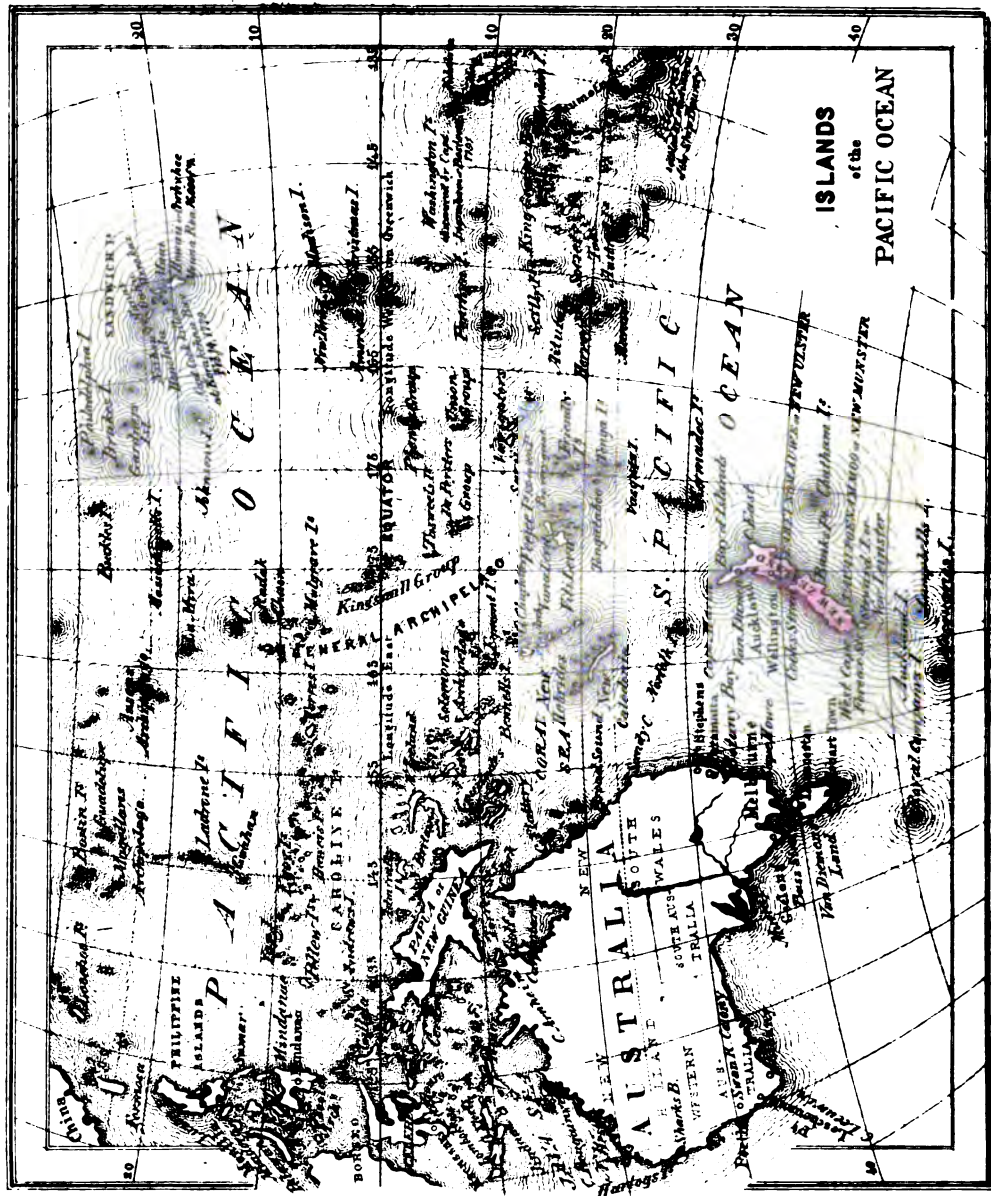
of Australia W. of the 129th meridian; but the only settled portion is the S. W. corner, which lies S. of parallel 30°, and W. of the meridian of 120°. The principal river is the Swan River, which is subject to sudden and tremendous floods. The interior is somewhat hilly. In the settled districts the land is of moderate fertility, but in the interior, beyond the sources of the streams, the soil seems to be altogether sterile, and the E. plains, so far as they have been explored, form a perfect desert. Good wheat is grown, also barley, and many of the finer fruits.

PERTH, the capital, is on the Swan River, 9½ miles above its mouth.

TASMANIA OR VAN DIEMEN'S LAND, a large Island S. E. of Australia, is settled mostly by the English. The aborigines have all perished or been removed from the island. The white population in 1848, was about 70,000; 20,450 being convicts. The staple products are wool, grain, cattle, sheep, oil, timber, and potash.

Viewing it from the sea, a succession of lofty mountains appear, wooded to their summits. The interior is mountainous, and presents an alternation of hill and dale, with lofty table lands, and extensive valleys and plains, generally thinly wooded but fertile. The country is watered by numerous streams.

HOBART TOWN, the capital, is extensive, well laid out, and well built; it is situated on the Derwent river, 20 m. above its junction with the sea. In 1848 its population was 21,429.



ISLANDS OF THE PACIFIC.

THE Pacific Ocean, extending between the Arctic and Antarctic circles, is the greatest body of water on the globe, extending N. and S. to a distance of 7,980 m., and at the equator about 10,000 m. wide. Its area is estimated at 70,000,000 sq. m. N. of the equator it is called the N. Pacific, and S. of the equator the S. Pacific. This ocean is distinguished for its innumerable small islands, which are most numerous in the tropics, and are of volcanic or coralline formation, yearly increased by the unseen and assiduous labors of the Zoophytes, all of singular beauty, and clothed with a rich vegetation. They enjoy a mild climate and are inhabited by various races, many of whom are yet in a state of barbarism. The Pacific was first discovered by Vasco Nunez de Bilboa, in 1513. Its various islands were discovered from time to time by navigators of different nations, the most distinguished of whom was Capt. Cook.

THE SANDWICH ISLANDS, the most noted in the N. Pacific, consist of about a dozen islands; they lie between lat. $18^{\circ} 55'$ and $22^{\circ} 20' N.$, and lon. $154^{\circ} 50'$ and $160^{\circ} 40' W.$ The chief islands are: Hawaii, pop. (1853) 24,452; Mani, pop. 17,664; Atanai, pop. 6,726; Oahu, pop. 19,126; Molokai, pop. 3,607; Ranai, pop. 599; Nihan, pop. 790; a total of 72,964, of which 1,856 were foreigners. Since their discovery the population has decreased. Capt. Cook estimated the population at 400,000; in 1823 it was 140,000; the census of 1832 gave 130,310; and that of 1850, 84,165. This decrease is owing partly to the young men going off in whale ships and not returning, and partly to the prevalence of virulent diseases. Civilization has made more progress in these islands than

any other; they publish a newspaper, and have a King (Kameamaha III.) and several English and American ministers, and much progress has been made in Christianity.

The surface of the country is mountainous, with many volcanic peaks; Mt. Roa, or Loa, a volcano, is 13,120 ft. high. The climate is salubrious, the mean temperature being 75° Fahrenheit. The soil in the uplands is used for grazing, the valleys produce coffee, sugar, tobacco, cocoa, cotton, arrow root, yams, and sweet potatoes. These islands are a centre of the whaling grounds in the N. Pacific.

THE LADRONE OR MARIAN ISLANDS, in the N. Pacific, are of volcanic origin, well wooded and fertile. They lie between lat. 13° and $21^{\circ} N.$, and lon. 144° and $146^{\circ} E.$ About 20 islands belong to this group, but few of which are inhabited. They have about 10,000 inhabitants.

THE CAROLINE ISLANDS, 30 in number, lie between 6° and $10^{\circ} N.$ lat., and 136° and $156^{\circ} E.$ lon., and are but little known.

THE PELEW ISLANDS, 15 or 20 in number, between $6^{\circ} 54'$ and $8^{\circ} 12' N.$ lat., and $134^{\circ} 5'$ and $136^{\circ} 40' E.$ lon., are mountainous, with beautiful and fertile valleys. These islands are populous, and they are friendly to foreigners.

NEW BRITAIN, NEW IRELAND, NEW HANOVER, &c.—This group lies between 2° and $6^{\circ} S.$ lat. They are low, well wooded, and peopled by a black, woolly-headed race; they use canoes 90 ft. in length, formed out of a single tree.

New Britain is about 280 m. long, and from 8 to 30 m. wide. The land rises with a gentle slope, covered with beautiful forests, among which are palm groves.

New Ireland, about 200 m. long by 8 to 20 broad, is well peopled, and abounds in tropical fruits.

New Hanover, 28 m. long by 12 broad, is also well wooded.

ADMIRALTY ISLANDS, to the N. W. of New Ireland, are clothed with luxuriant verdure, well cultivated, and peopled by a race who have attained to a high degree of civilization.

SOLOMON ISLANDS, between 5° and 10° S. lat., and 155° and 160° E. lon., are peopled by a black race who go entirely naked. Little is known of the country, which is covered with dense vegetation. *Bougainville's Islands* belong to this group.

NEW HEBRIDES—*Archipelago of the Great Cyclades*—between $14^{\circ} 10'$ and 20° S. lat., were explored by Cook, in 1774, who gave them their name. They are generally mountainous, well wooded and watered. The largest, *Terra del Espiritu Santu*, was supposed, when discovered by Quiros, in 1606, to be part of a great southern continent. It is 70 m. long by 40 m. broad, sloping on the N. coast, but on the E. side exceedingly high and mountainous; in many places the hills rise directly from the sea, clothed with verdure and forests; the small ialets skirting the coast are clothed, as in other parts of Polynesia, with palmiferous vegetation. In many of the islands there is a fine race; but at *Mallicollo* they are described by Cook as the most ugly, ill-proportioned people he ever met with, having long heads, flat faces, and ape-like countenances. Pigs and poultry abound; yams grow to a great size, and sometimes weigh 50 lbs.

NEW CALEDONIA, lying between $19^{\circ} 37'$ and $22^{\circ} 30'$ S. lat., and $163^{\circ} 37'$ to $167^{\circ} 14'$ E. lon., is 240 m. long by 30 m. broad; in general, mountainous, flat to the N. E., and a bleak and barren

appearance. It is comparatively thickly inhabited by a people who live on vegetable food, fish, and birds; quadrupeds, even dogs or cats, being unknown. The natives are affable, honest, and speak a language totally dissimilar to that of the other islands in the Pacific.

THE ISLE OF PINES, in $22^{\circ} 38'$ S. lat., $167^{\circ} 25'$ E. lon., is 42 m. in circumference, and has many beautiful *Auracaria* pines. The natives are cannibals.

THE FRIENDLY ISLANDS, between 20° and $21'$ S. lat., are low, and highly cultivated. *Tongataboo*, in $21^{\circ} 9'$ S. lat., $174^{\circ} 46'$ W. long., about 60 miles in circumference, level, and 70 to 80 feet above the sea, is the chief island, and thickly peopled. Almost every individual wants the little finger of one or of both hands, which indicates grief for some deceased person. Idolatry, human immolations, and cannibalism, prevail. *Tonga* islands present similar features to the preceding.

NAVAGATOR'S ISLANDS, between 160° and 170° W. long., are in some instances lofty, of great fertility, and populous; the men are powerful and quarrelsome, the woman graceful and profligate.

THE MARQUESAS, in 8° to $10'$ S. lat., and 139° and 140° W. long., have a bold and rugged aspect; the land high, and of volcanic origin. The level districts yield, in abundance, tropical produce; the inhabitants, of a bright brown, like the natives of Malabar, exhibit perfect symmetry of form, with regular features, fine black eyes, good teeth, and a frank and open countenance.

THE SOCIETY ISLANDS, are an extensive group between 15° and 23° S. lat.; the scenery is described by Cook, Ellis, and others, as of the most magnificent description it has a fertile soil and luxuriant vegetation, matured by the genial heat

of a tropical clime. *Otaheite*, in $17^{\circ} 48'$ S. lat., 150° W. long.—120 miles in circumference—appears like enchanted ground, from its singular wildness and beauty. The inhabitants are a fine race, generally above the middle stature, with bold and sometimes prominent features. *Otaheite* has about 10,000 inhabitants, and the other islands of the group perhaps an equal number.

PITCAIRN'S ISLAND, was peopled by the English seamen who mutinied in H. M. S. *Bounty*, Captain Blight, and landed on this island with their *Otaheitean* wives. It is in $24^{\circ} 5'$ S. lat., $130^{\circ} 25'$ W. long., about six miles long by three miles broad, with a rich soil and delightful climate. It has an "iron-bound coast," and landing in a boat is even difficult. John Adams, the leader of the mutineers, became the patriarch of the little community, among whom he diffused religion and morality, which has been transmitted to the colony which he founded.

NORFOLK ISLAND, for several years the penal settlement of New South Wales and of Van Diemen's Island,—is in 39° S. lat., 168° E. lon., about 5 miles long by 3 miles broad, and with only one anchorage (Sidney Bay) tolerably safe at some seasons. The surface resembles the sea in a gale of wind, being composed of long, narrow

and very steep ranges of hills, with deep gullies, which are as narrow at the bottom as the hills are at the top, so that there is but little level country. The soil, however, is remarkably good, and the celebrated pine (*araucaria excelsa*) was found in great numbers.

New Guinea or *Papua*, is a large island, S. of the equator and N. of Australia, about 1,500 m. long, with a varying breadth of 200 to 400 m.; its area is about 250,000 sq. m. But little is known of this island. The interior is supposed to be mountainous, abounding in large trees. Among the productions are various spices, camphor, sugar cane, sago, &c. The inhabitants are black, with frizzly hair, and small in stature; the men are scantily clad, and hideously painted.

NEW ZEALAND belongs mostly to England. It consists of two large islands. They are mountainous and rugged. There are many lofty and isolated peaks—Mt. Edgecomb, 10,000 ft. high, and Mt. Egmont, 8,340 ft. high, being the most remarkable. They have a moist, yet healthy climate; many of the mountains are covered with snow. The natives are described as being tall, strong and active, but filthy in their habits. Christianity has made considerable progress among them.

APPENDIX TO VOL. II.

THE accompanying drawings show the characteristic physiognomy, form, color, the relative size and costume, of the leading races of men.

The groups are arranged according to Dr. Latham's approved system, whose researches have thrown great light upon this interesting branch of knowledge. The figures are drawn from the most reliable sources, and present an epitome of humanity in its diversified forms and conditions. Man, the masterpiece of animal organizations on our globe, is not, like most other animals, confined to any special locality, but inhabits all zones, climates, and localities, though the population in various sections differs widely in its density.

The population of Asia, Africa, America, and Australia is as, 1:1.6—1:15.7—1:16.7—1:61. What pertains to the difference of nationalities can be seen at a glance; we at once detect the great difference between a Negro, a Chinese, and the Caucasian, or Anglo-Saxon. The first three are the representatives of three great races, differing widely, both physically and intellectually. Physically, in form, color of the skin, and hair. Intellectually, as evinced in the language, dress, religion, social and political life. Yet, however wide these differences, all are members of one common family or species.

A great difference exists in the form of the skull and the features of the face: the size of skull, and consequent amount of brain, indicates the intellectual development of the various races.

The difference of color in different races is attributed to several causes. Dr. Latham says,

"Low elevations, diluvial soils, and a warm, moist atmosphere, all tend to darken the complexion. We also find a difference in the growth and color of the hair and beard, etc."

The intellectual development of a race depends largely upon the character of the soil and the commercial intercourse with other nations. Where the spontaneous productions of the earth satisfy the wants of a people, there we find the closest approximation to the lower orders of animals; such races may be still found in Australia and central Africa.

The progress of civilization is very slow among those wandering tribes who live by the chase, as the American Indians, though they are physically quite well developed.

The pastoral races, who live chiefly from the products of their herds, inhabit a long row of deserts and plains which extend across Africa and Asia. In Europe and America they are not found. They are more cultivated than either of the afore-mentioned groups.

Those nations who stand highest in culture and knowledge, live by agriculture, and have permanent habitations, embracing the European nations and their descendants. The half-civilized are the Chinese, Japanese, etc.; the other agricultural tribes stand no higher, as regards their physical development, than the hunting tribes of America. Among those tribes who have no fixed habitation, each has its leader, and most of those who are not members are considered foes; hence hostile collisions are frequent, in which whole tribes often become extinct; while among the nomadic tribes, com-

mercial contact leads to centralization of power, as in patriarchal governments, the primitive form, and thence to monarchy. From the abuse of monarchical power, aristocracies have arisen—a government composed of the most prominent or *ambitious* men of a nation. Out of this springs democracy, where the ruling power is vested in the people. With an intelligent people this form of government is doubtless the best, in its operations and tendencies; but with an ignorant one, by far the worst. The Caucasian nations, with their superior intelligence and morality, have always been the most free; the Mongol and Ethiopian races the most despotic. We divide religions into Monotheism and Polytheism. To the first belong the Jews, Christians, and Mohammedans, the Buddhists, Bramins, and other Pagans, the last. For the distribution of the various religions over the world see “American Atlas,” p. 29. The following are the systems adopted by several eminent naturalists. The drawings are after

DR. LATHAM'S SYSTEM.

1. Monosyllabic Group.
2. Turkish and Turanian.
3. Caucasian.
4. Persian.
5. Indian.
6. Oceanian.
7. American.
8. African.
9. European.

CUVIER'S SYSTEM.

1. Caucasian & other whites.
2. Brown Races (Mongol, Malay, and American).
3. Black Races (Ethiopian, Papuan, etc.).

DR. PRICHARD'S SYSTEM.

1. Those nations who in skull and physique resemble

- Europeans, including tribes in Asia and Africa.
2. Turanian; those whose physique resembles the Mongol and Calmuck.
3. The Aborigines of America, except Esquimaux and Auracanians.
4. Hottentots and Bushmen.
5. Negro.
6. Papuans.
7. Australian.

BLUMENBACH'S SYSTEM.

1. Caucasian, Indian, Persian, European Semitic.
2. Mongol (Monosyllabic and Turanian).
3. Malay and Oceanian.
4. American.
5. Ethiopian.

the MONOSYLLABIC are the Chinese, Birman, Annamese, etc., in S. E. Asia. Their languages have little flexibility, and nearly all the words are composed of *one syllable*, whence their name. In physique they resemble the Mongols, but their traits are softer. Their color varies, from the light yellow of the Chinese to the black of the Andaman Islands. They have grisly hair and good forms. They have all attained about an equal degree of civilization. They are mostly Buddhists. The Turanians comprise the Mongols, Tungusens, Turks, Samoyedes, Hungarians, Laplanders, Kamschatdals, etc. They have round heads, broad shoulders, flat faces, high cheek-bones, thin hair, and are of a dirty yellow color. These groups mostly inhabit the great plains, and lead a pastoral life. The next three groups, the Caucasian, Persian, and Indian, have frequently, with European and Semitic nations, been classed as Caucasian. (See Cuvier.) The Caucasians really inhabit the Caucasus, and the countries lying south of it. Their physiognomy is more European than Mongol, but their language is monosyllabic and inflexible. They are divided into two tribes—the Circassian and Lesghian. The females are voluptuously beautiful, and the men of fine martial bearing. The renowned chieftain Schamyl is a Lesghian. The Persians, Kurds, etc., resemble the Caucasians in physiognomy and language. The Kurds are a brave and hardy race, trained from childhood to the use of weapons and horsemanship. The great Indian race may be considered as two branches—one in the north with a light skin, and a language largely derived from the Sanscrit. The

It will be necessary to make a few remarks on the different groups. Those belonging to

other in the south, and nearly black. The civilization of Eastern Asia originated here; also the wide-spread systems of Brahma and Buddha.

SOUTH SEA ISLANDERS.—The Polynesians consist of two separate races—the dark, woolly-haired Papuan and the light-colored Polynesian. The first extends over the various islands from New Guinea to New Caledonia (see p. 237, vol. 2), and are in a state of the rudest barbarism. The Polynesians have extended from the Indian Archipelago to the east over the Carolines and Mulgraves, and in the south over the Society, Friendly, Navigators, etc., to New Zealand. Among the Malays there exists some civilization. They are mostly Mohammedans—the others are Pagans, though Christianity has made some progress among them. The drawing shows a tattooed prince of the Marquesas Islands, also two Australians, one from the north, the other from the south. The Americans, with the emigrant European and imported African, occupy the Western Continent, except a small portion near Bhering's Straits, inhabited by descendants of the Finns. The belief has obtained somewhat, that America was peopled from Asia, while we find traces that long before it was inhabited by Europeans and Polynesians. Most of the natives are of a bronze color, with black, straight hair, thin beard, and Mongol features. They live mostly by the chase. The drawing shows the great Shawnee chief, Tecumseh, a Cherokee of the South, an Araucan, from the highlands of Chili, and a Patagonian from the Straits of Magellan.

Much is yet wanting to complete our knowl-

edge of the African races. They are divided by Dr. Latham into the Semitic nations, comprising the Arabs, Syrians, Jews, and Abyssinians. The Copts are descendants of the ancient Egyptians. In Western Sahara are found the nomadic Berbers. The Nubians, Gallas, and Somalies occupy another group.

The great Caffre family, on whose country, divisions, and habits Dr. Livingston has recently thrown so much light, inhabit all South Africa, except the Hottentot country. The *negro*, as distinguished in the drawing, is found in Guinea, Senegambia, and Central Africa. The drawing shows in the African group an Arab, Abyssinian, Hottentot, Negro, and Caffre. (For religion of Africa see Chart, vol. 1.) We next come to the European, who occupies not only Europe, but the other continents, in greater or less numbers.

They are divided as follows: the Basques in Spain and Gascony; the Albanians; the Cymri in Wales and Britain and Scotland; the Greco-Latin family—Spaniards, Greeks, and Italians; the Slavonians—Poles, Russians, and Bulgarians; the German—Prussians, Hollanders, Anglo-Saxon, Swede. A Prussian and Anglo-Saxon are shown in the drawing. Among these races civilization has reached the highest degree of perfection, and they represent to-day the power and intelligence of the world.

The following table shows the comparative size of the races:

GROUP.		GROUP.	
Monosyllabic....	548,575,000	Oceanic.....	48,550,000
Turanian.....	78,589,000	American.....	89,059,000
Caucasian.....	4,467,500	European.....	295,984,400
Persic.....	20,700,000		
Indian.....	141,800,000	Total.....	1,316,870,000





NEGRO

HOTTENTOT

CAFFIR

ABYSSINIAN
ARABIAN

SOL
HINDOO



TH INDIAN

KURD

PERSIAN

AFGHAN

CAUCASIAN



NEGRO

HOTTENTOT
CAFFIR

ABYSSINIAN
ARABIAN

SOI
HINDOO



TH INDIAN

KURD

PERSIAN

LESGHIAN

CAUCASIA



MSCHATDALE
3YAR

LAPLANDER

SAMOYADE

CAFFIR

JAPANESE

MONGOL

SAMIYAN

MONGOL



TURKS

NOGAIER

ANNAMESE

SIAMESE

CHINESE

THIBITIAN

BIRMANESI





H. MONOSYLABIC

P E A N

ON

ALBANIAN

WALLACHIAN

SPANIARD

ITALIAN

BASK

GREEK





ION



C

A

N.

1

AN. PERSIC. CAUCASIAN.
H TH SEA I S L A N D E R
NORTH AND SOUTH AUSTRALIAN NEW ZEALANDER MARQUESAS ISLANDER SANDWICH ISLANDER MALAY



A F R I C A N . I N
A M E R I C A N . S O

CHEROKEE

AURACANIAN

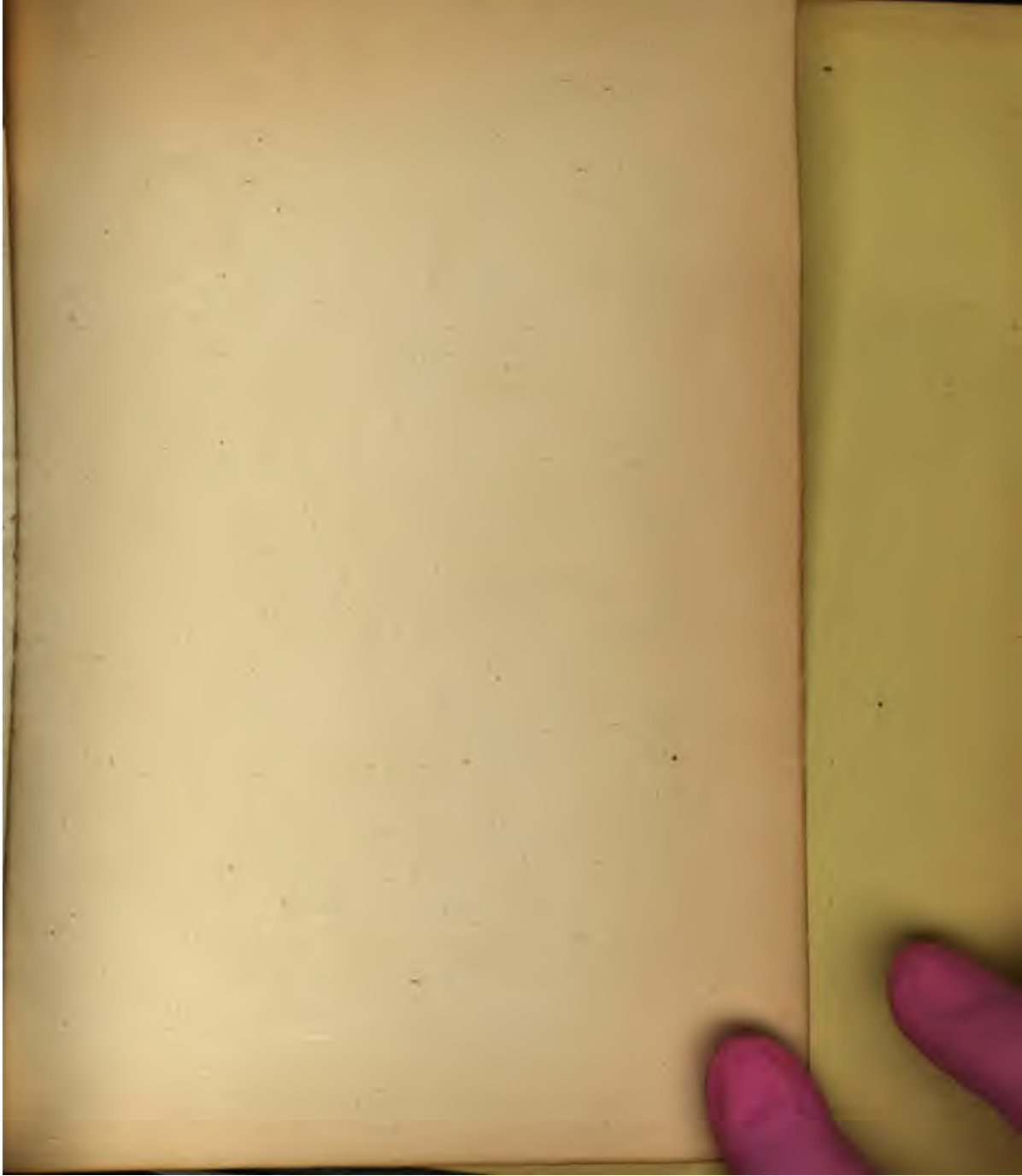
PATAGONIAN

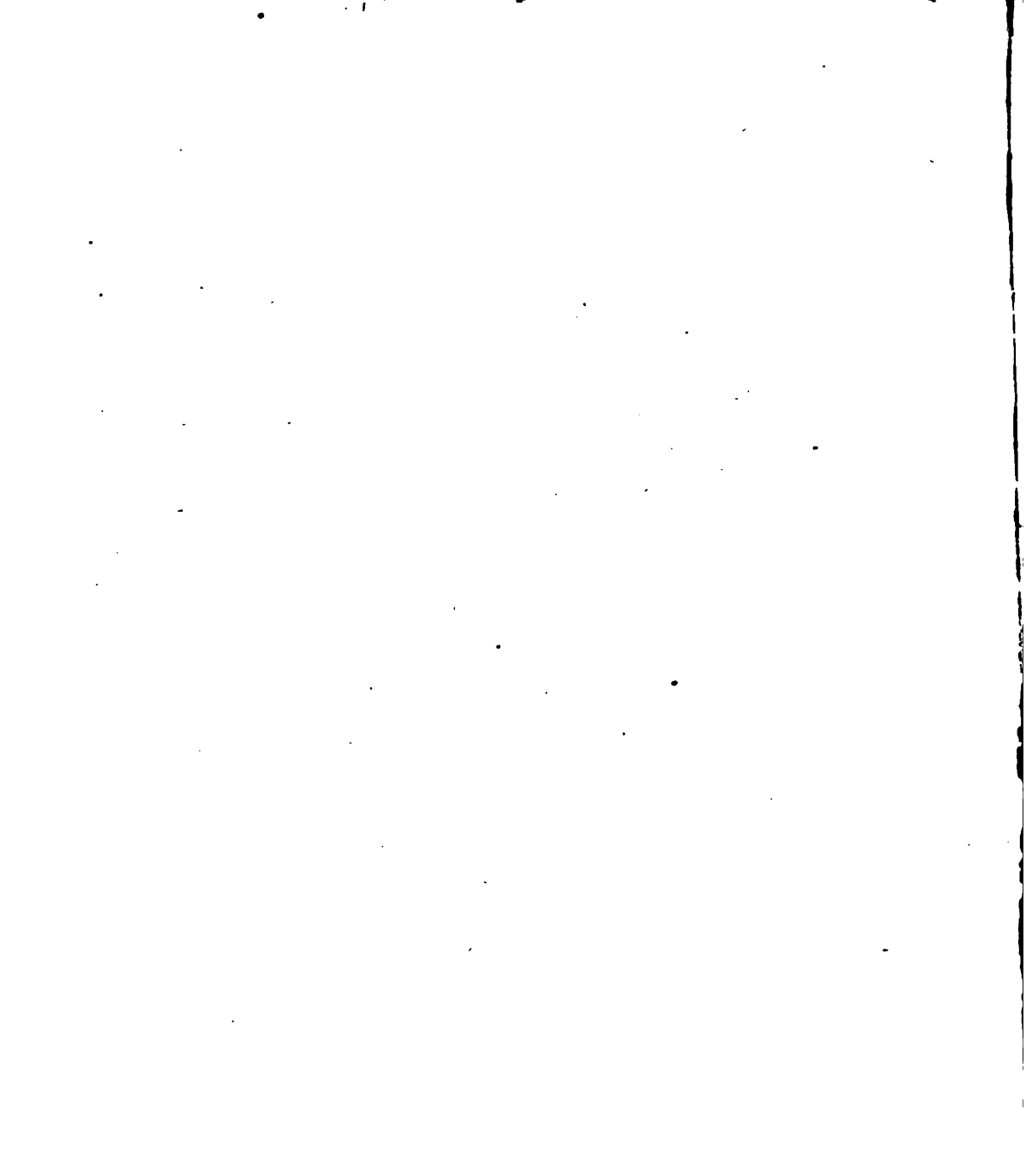
ESQUIMAUX

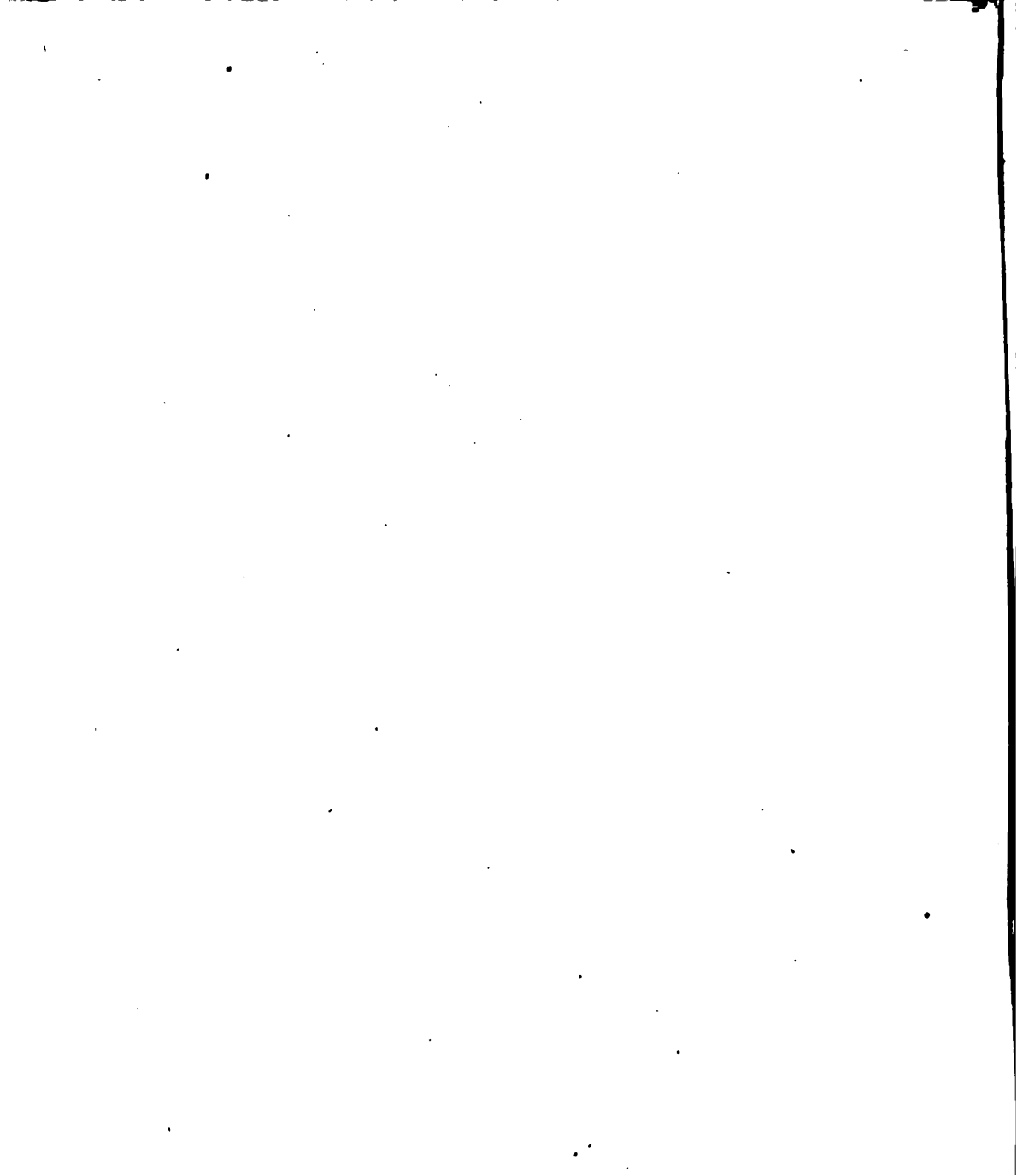
SHAWNEE

PAPU













MORSE
AND
GASTON'S
DIAMOND ATLAS

—(1880)—
ORIENTAL

